

FIG. 1A

SIGNAL CLEAVAGE SITE

↓

M G K F T V V A A A L L L G A V R A E - G S S -

L G C D L A - P Q M L R E L Q E T N A A L Q D V R E L L R Q Q V K E I T F L K N T V M E C D A C G - M Q P A R T P G T S -

P Q P Q P K P Q P Q P Q P K P E P E - G T G S S E - K D E L

FIG. 1B

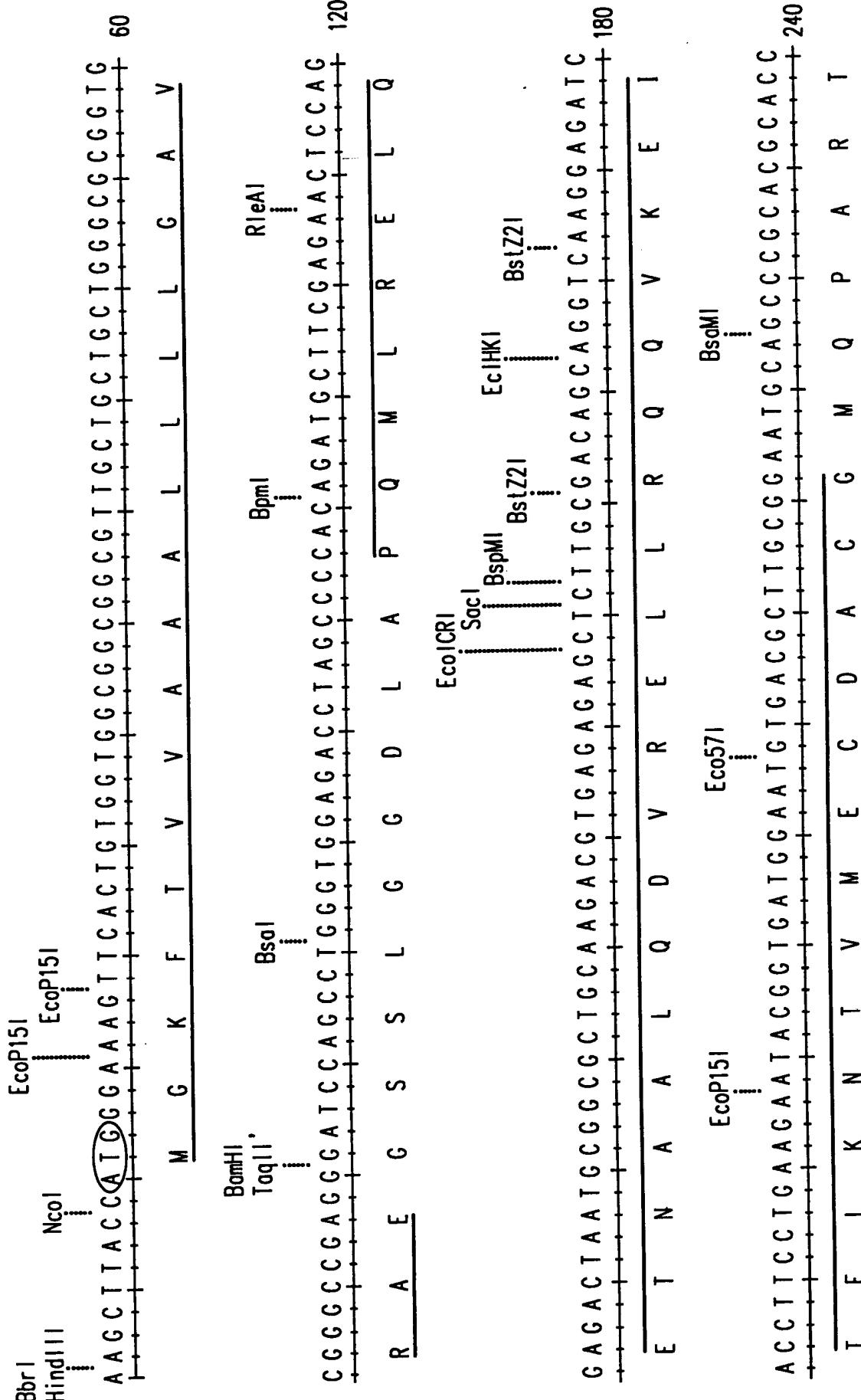


FIG. 1C

CCCGGTTACCTAGTCCCAGCGAACCGGAGCCAGCCACGGCCAGCGAACCGGAA

SpeI

300

CCCCGGTTACCTAGTCCCAGCGAACCGGAGCCAGCCACGGCCAGCGAACCGGAA

P Q P K P Q P Q P Q P Q P K

Acc65I KpnI

360

CCCCGGAAACCGGAGGTACCGGATCATCAGAAAGATGAGCTTGAGCTAGGCC

P Q P K P E P G T G S S E K D E L

NdeI Ppu10I

BfBI

NsiI

XbaI

EcoRI

SceI

387

CCCCGAGAATTCCATATGCCATCTCGAG

FIG. 1D

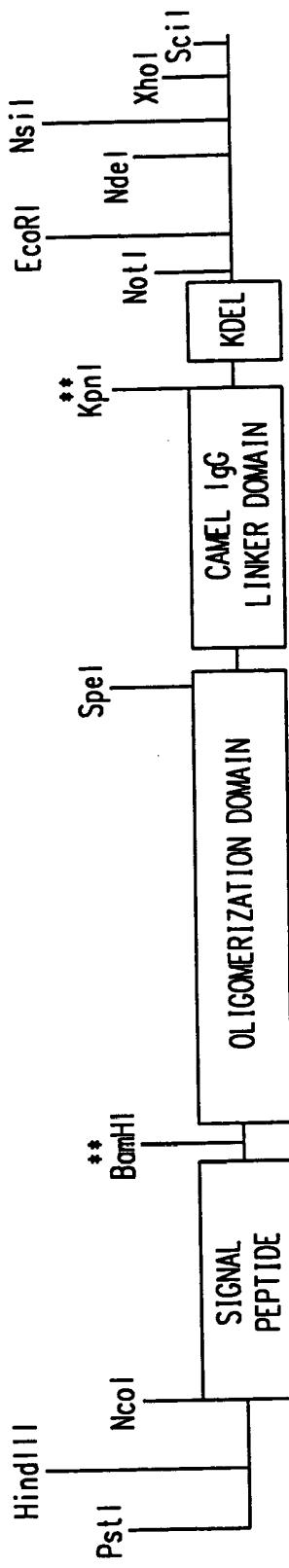


FIG. 2A

SIGNAL CLEAVAGE SITE

M C K F T V V A A L L L L G A V R A E - G S S -
L G G D C C - P Q M L R E L L Q E T N A A L Q D V R E L L R Q Q V K E I T F L K N T V M E C D A C G - M Q P A R T P G T S -

P Q P Q P K P Q P Q P Q P K P Q P K P E P E - G T G S S E - K D E L

FIG. 2B

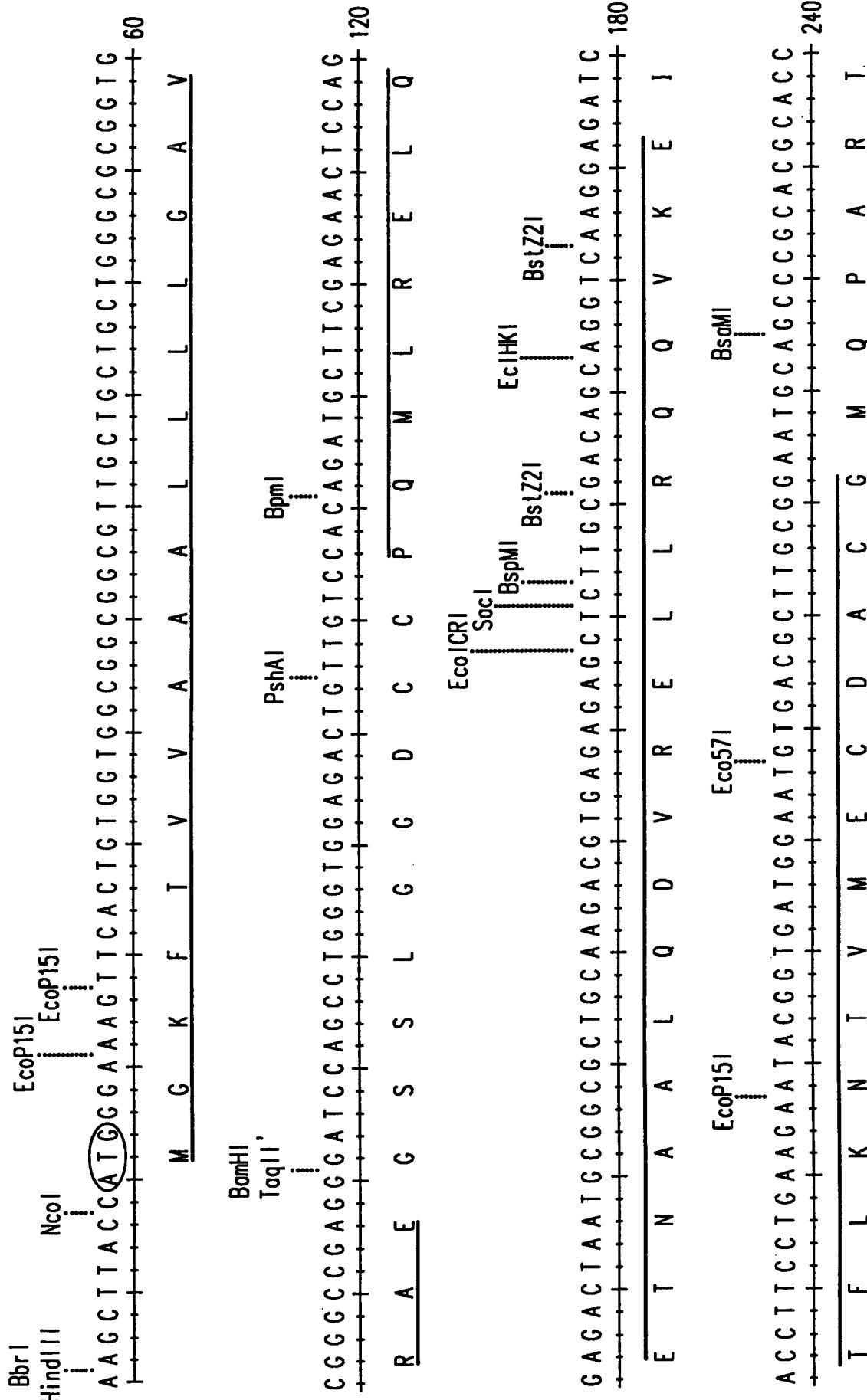


FIG. 2C

卷之三

P G T S P Q P Q P Q P Q P Q P Q P K

P 0 P K P E P E G T C S S E K D E L

Diagram of a DNA sequence with restriction enzyme cleavage sites. The sequence is: G C C C G A A T C C A T G C A T C T C G A G. Cleavage sites are marked with vertical lines and labels: NdeI, Ppu10I, BfrBI, NsiI, XbaI, SceI, and EcoRI.

FIG. 2D

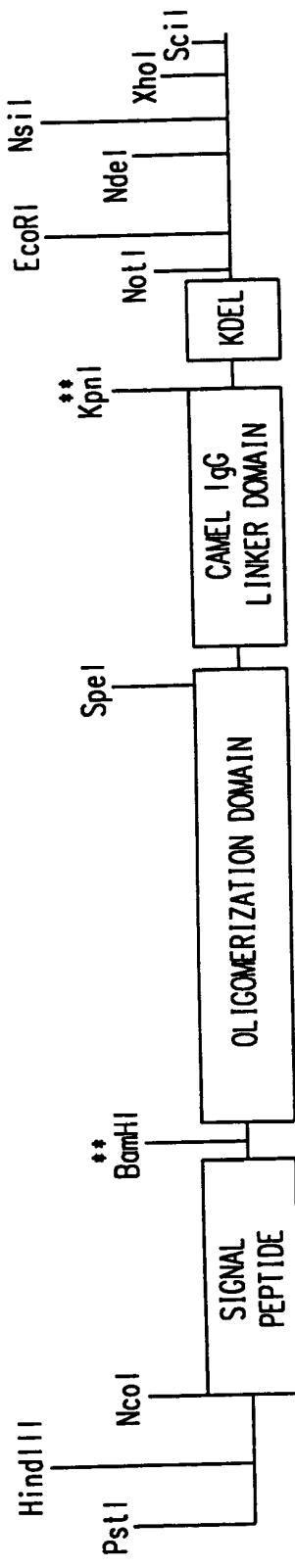


FIG. 3A

SIGNAL CLEAVAGE SITE

↓

M G K F T V V A A L L L G A V R A E - G S S -

L G D C C - K A L V T Q L T L F N Q I L V E L R D D I R D Q V K E M S L I R N T I M E C Q V C G -

P Q P Q P K P Q P Q P Q P K P Q P K P E P E - G T G S S E - K D E L

FIG. 3B

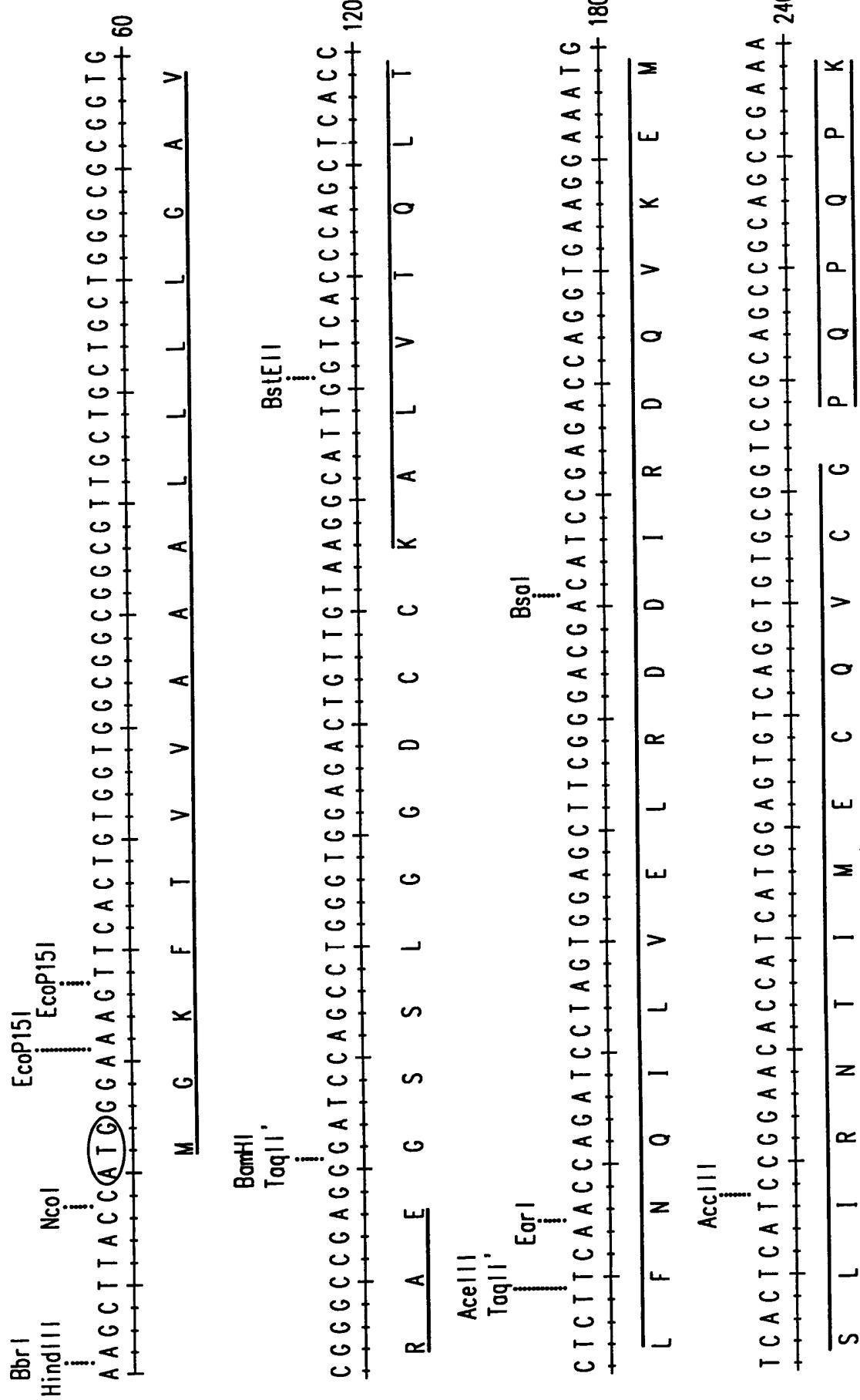


FIG. 3C

ପାତା ୧୦

The diagram shows a DNA sequence with the following features:

- Sequence:** The sequence is 300 nucleotides long, starting with **CGG** and ending with **GGG**. A poly-A tail is present at the 3' end, ending at position 357.
- Restriction Enzyme Sites:**
 - P:** PstI site at position 100.
 - Q:** PstI site at position 100, KpnI site at position 101, and PstI site at position 102.
 - R:** PstI site at position 100, KpnI site at position 101, and PstI site at position 102.
 - E:** EcoRI site at position 100.
 - G:** EcoRI site at position 100.
 - T:** EcoRI site at position 100.
 - NdeI:** NdeI site at position 100.
 - Ppu10I:** Ppu10I site at position 100.
 - BfrBI:** BfrBI site at position 100.
 - NsiI:** NsiI site at position 100.
 - Xhol:** Xhol site at position 100.
 - SciI:** SciI site at position 100.
 - Eco52I:** Eco52I site at position 100.
 - EcoRI:** EcoRI site at position 100.
- Poly-A Tail:** A poly-A tail is located at the 3' end, starting at position 350 and ending at position 357.

FIG. 3D

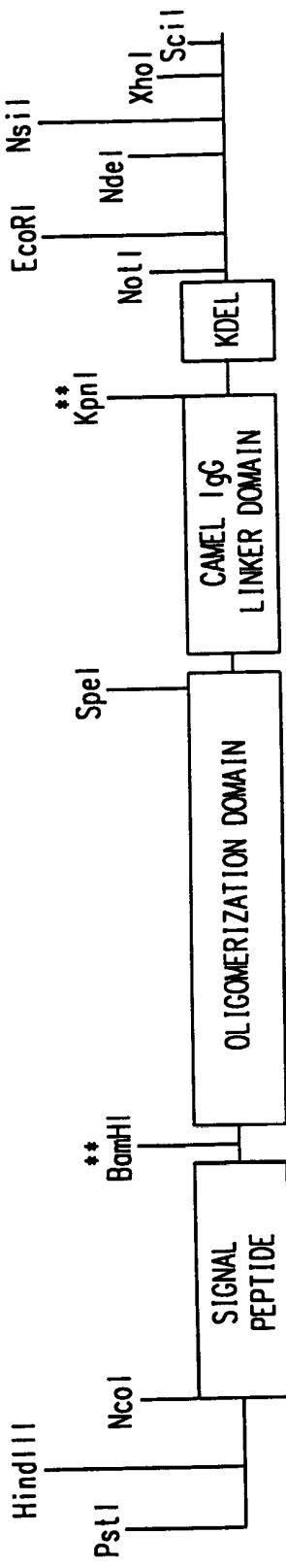


FIG. 4A

SIGNAL CLEAVAGE SITE

M G K F T V V V A A L L L G A V R A E - G S S -
L G G D C C - G E Q T K A L V T Q L T L F N Q I L V E L R D D I R D Q V K E M S L I R N T I M E C Q V C G -
P Q P Q P K P Q P Q P Q P K P Q P K P E P E - G T G S S E - K D E L

FIG. 4B

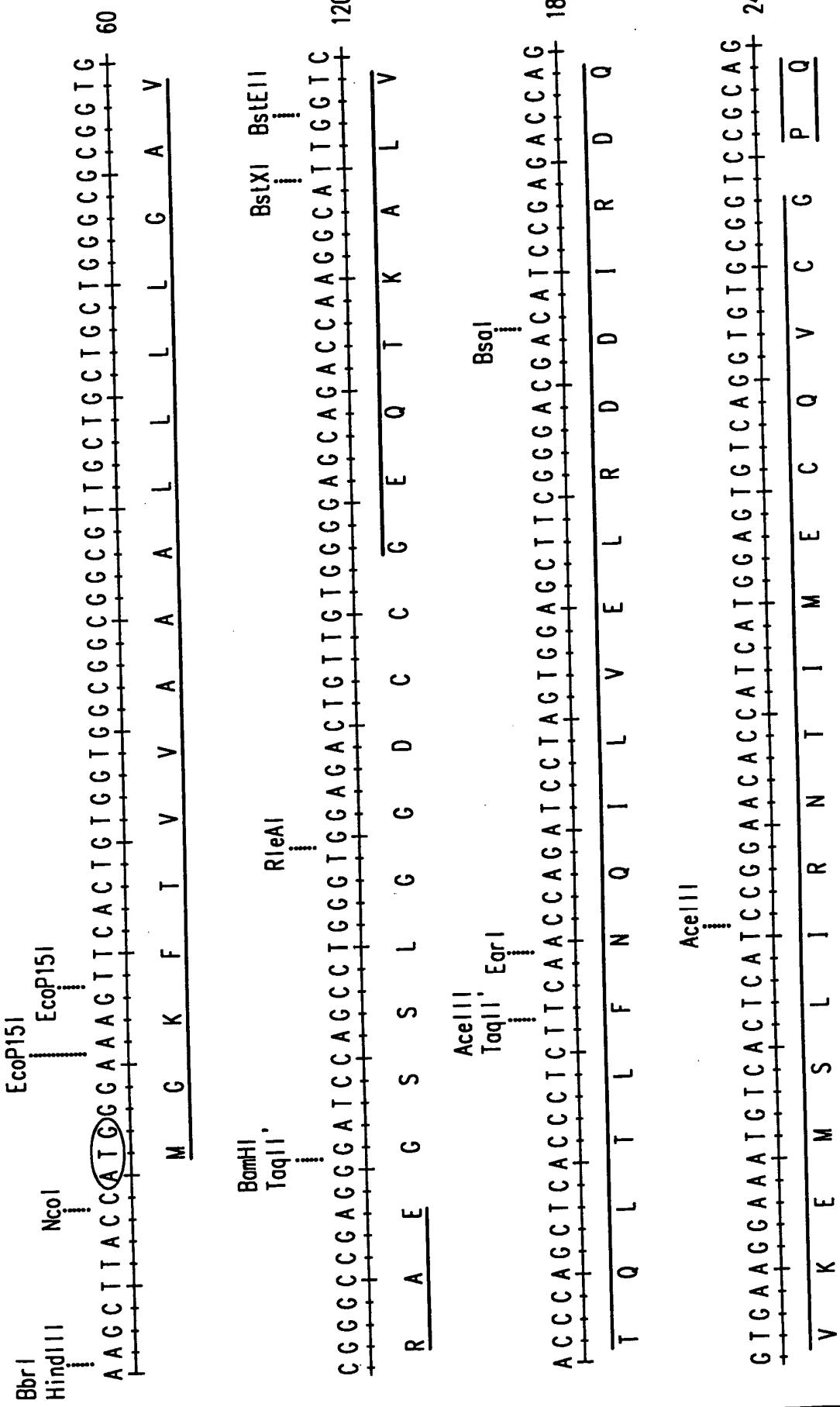


FIG. 4C

卷之三

CCCGAACTTACCGGATCATCAGAAAAGATGAGCTTGCTAGGCCGGCAGAAATCCATATG
 P E G T G S S E K D E L .

FIG. 4D

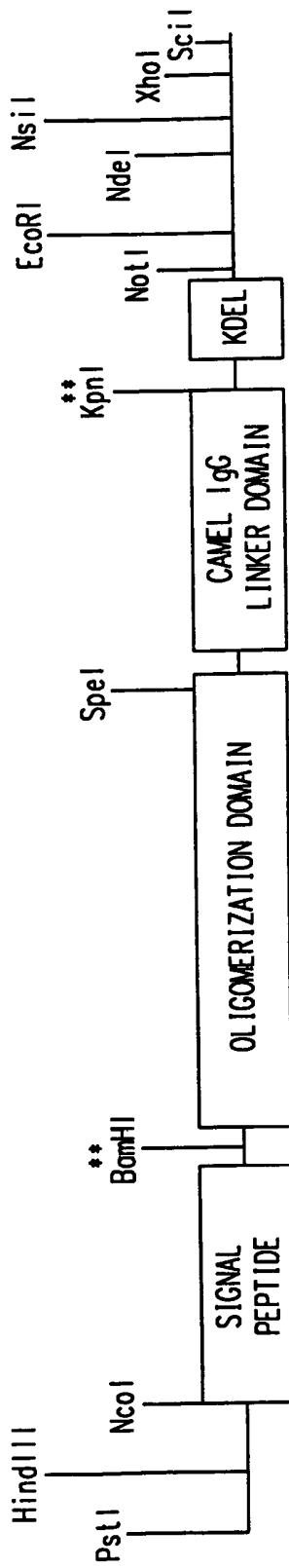


FIG. 5A

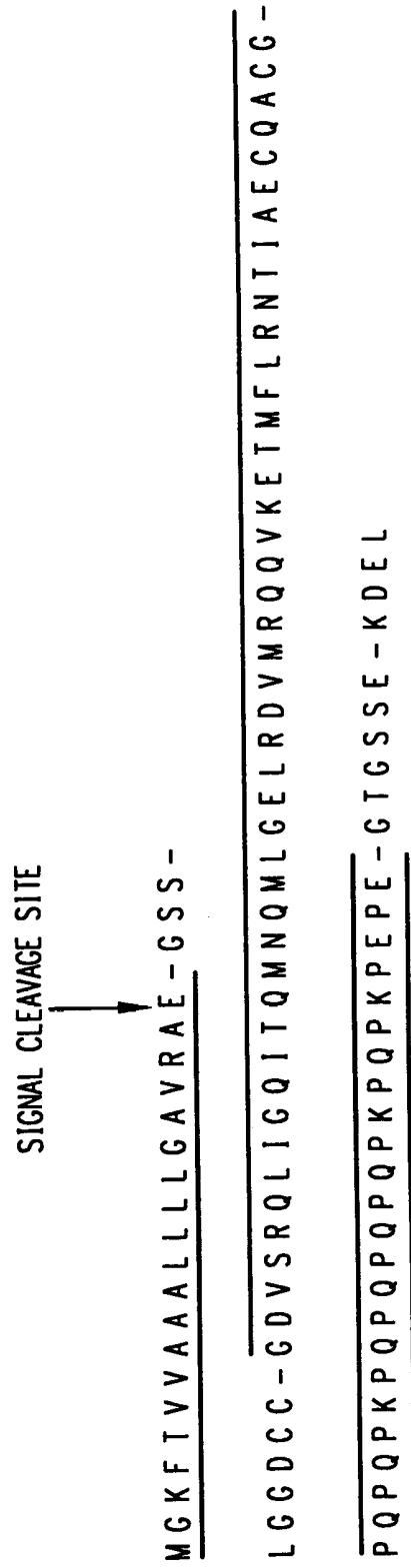


FIG. 5B

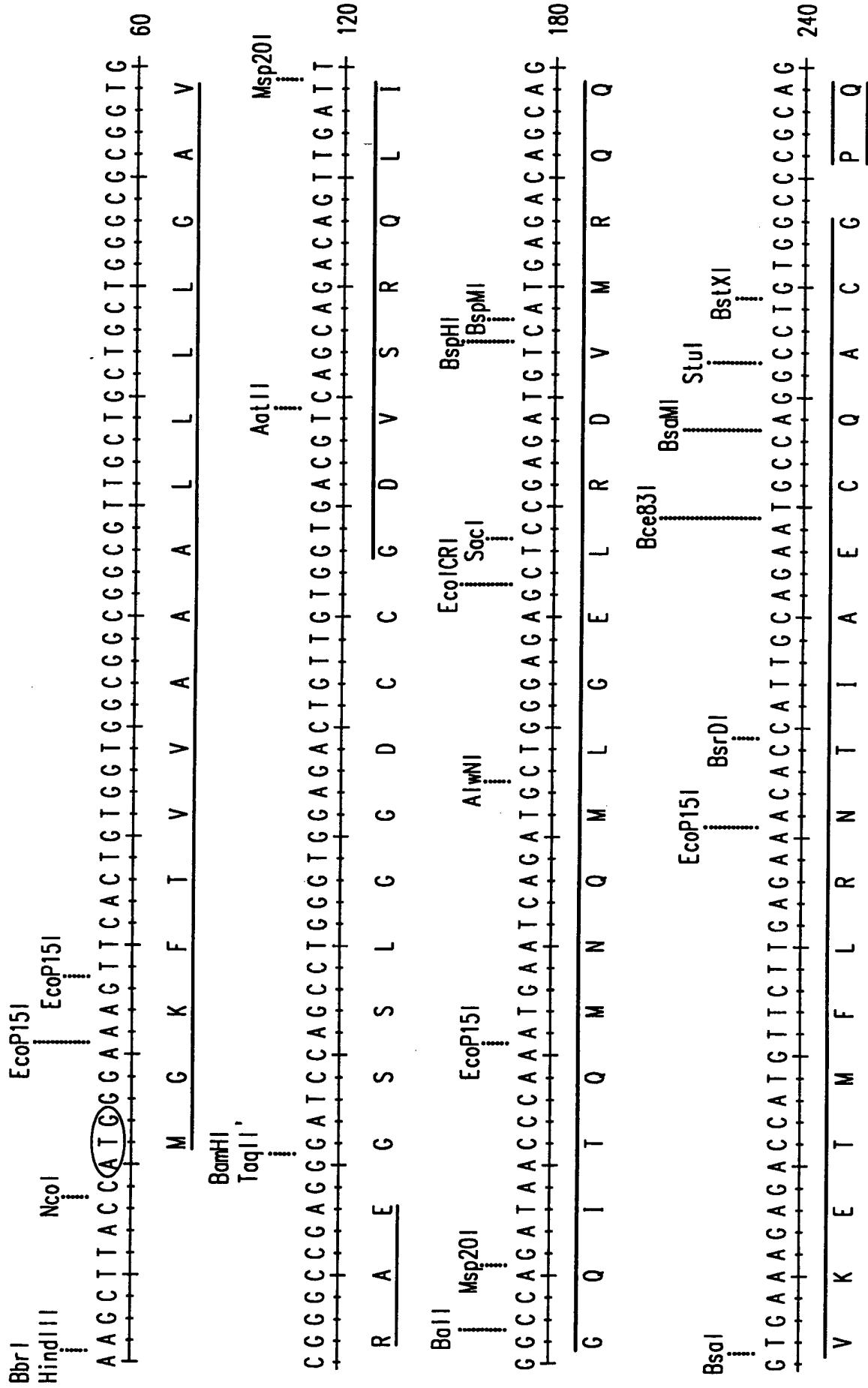


FIG. 5C

卷之三

The diagram shows the pBR322 plasmid with restriction sites marked. NsiI is at the left end. XbaI is located between the *lacZ* and *lacZ*' genes. SceI is located between the *lacZ*' and *amp* genes. The *lacZ* and *lacZ*' genes are oriented in opposite directions. The *amp* gene is located at the right end.

FIG. 5D

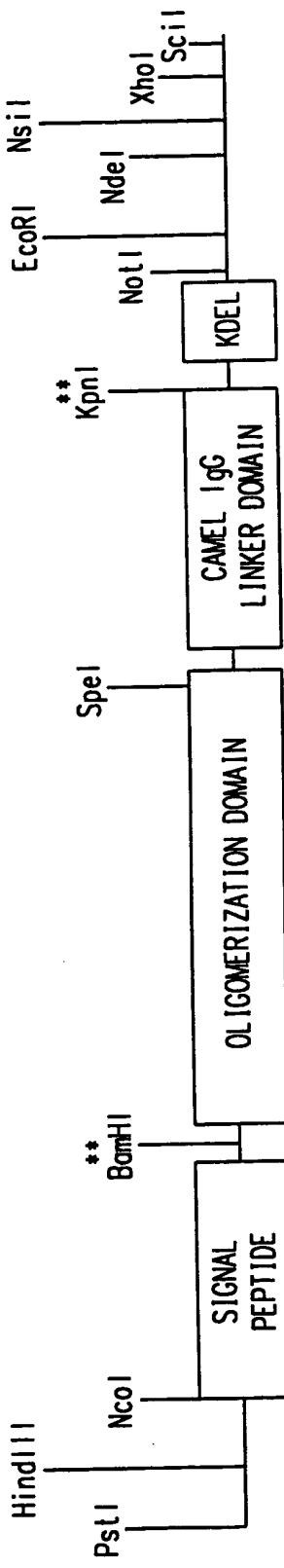


FIG. 6A

SIGNAL CLEAVAGE SITE

MR YM IL GLL ALA AV C S A A K K - G S S -

LC G D C C - S D L G P Q M L R E L Q E T N A A L Q D V R D W L R Q Q V R E I T F L K N T V M E C D A C G -

P Q P Q K P Q P Q P K P Q P K P E P E - G T G S S E - K D E L

FIG. 6B

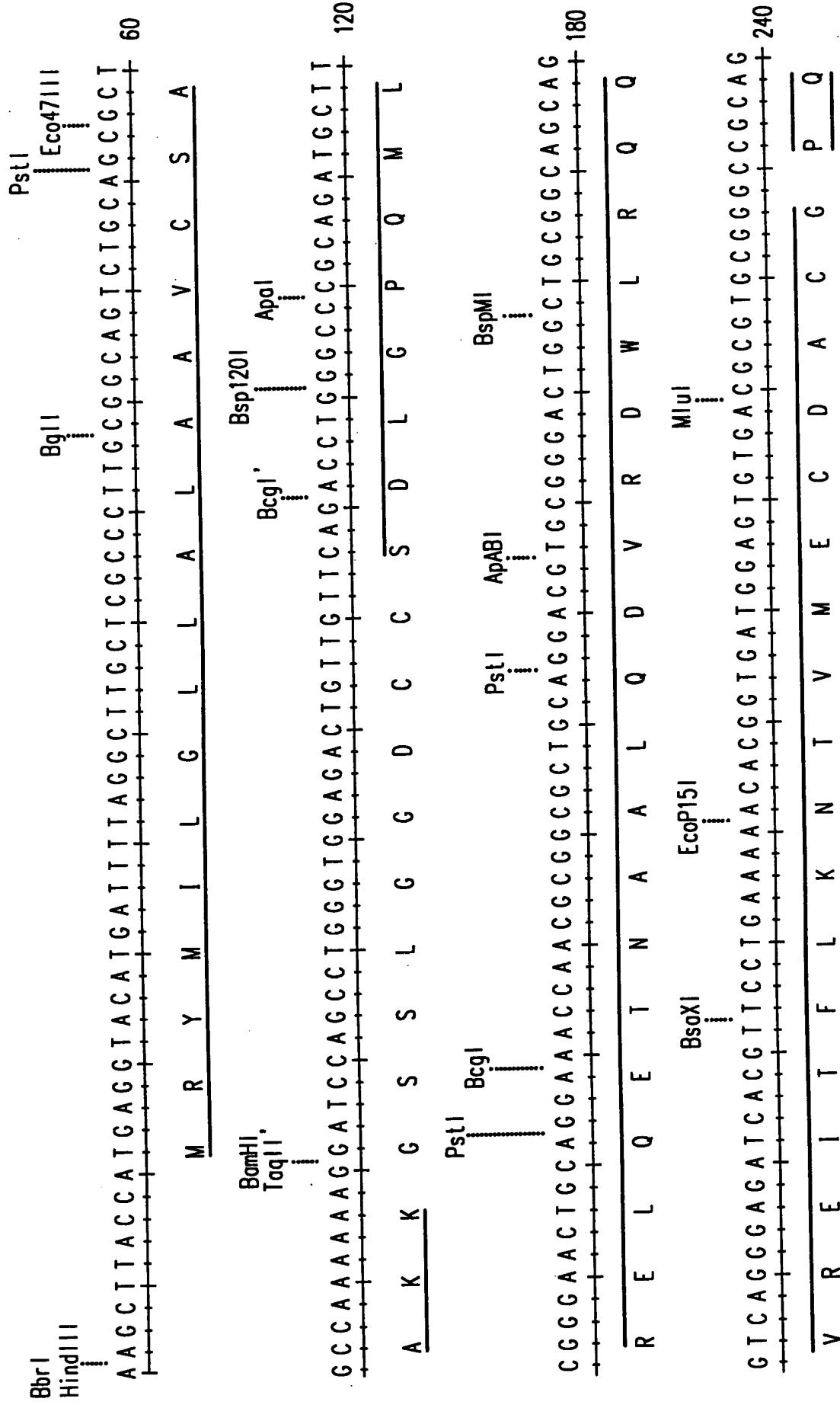


FIG. 6C

卷之三

CCGCAGCCAAACCCAGCCCCAGCCAGCCAAACCCAGCCAAACGGAAACGGAA300

P 0 P K P 0 P 0 P 0 P K P Q P K P E

P E G T G S S E K D E L

FIG. 6D

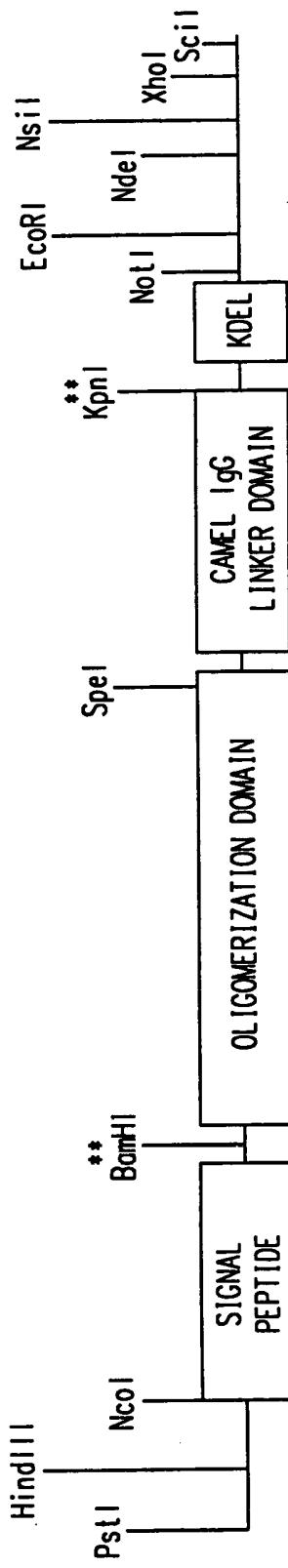
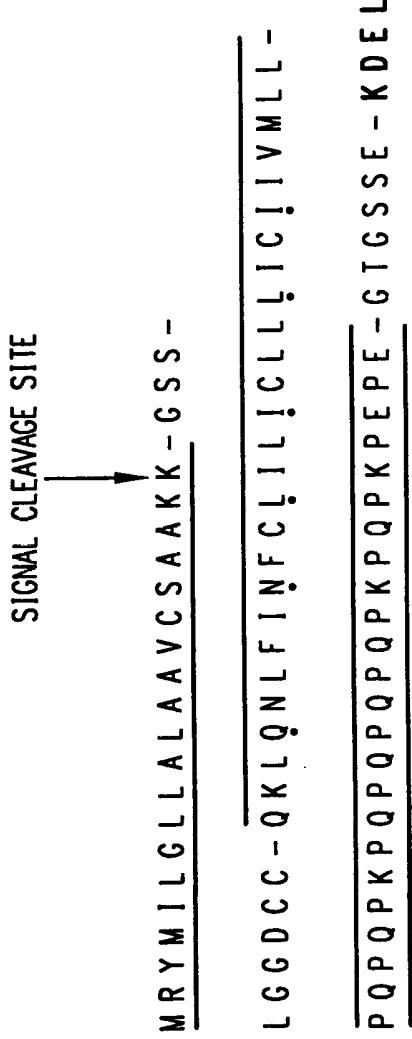


FIG. 7A



- RESIDUES CRITICAL FOR PENTAMER FORMATION

FIG. 7B

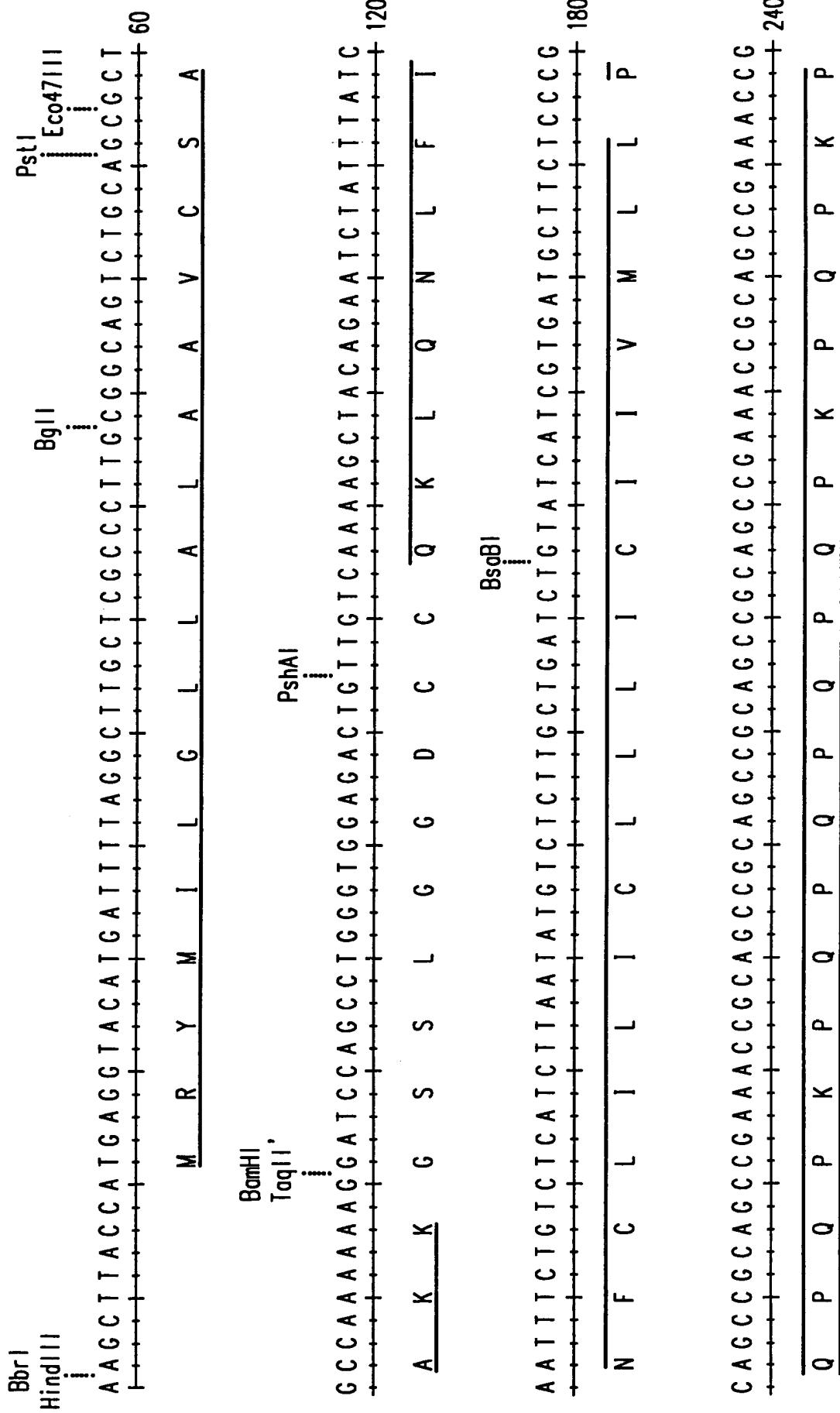


FIG. 7C

Acc65I KpnI Eco52I EcoRI NdeI

GAACCGGAGGTACCGATCAGAAAGATGAGTTGAGCCGGCCAGAAATTCCAT
E P E G T G S S E K D E L
300

Ppu10I BfrB I Nsi I Xba I Sce I
ATGCATCTCGAG 312

FIG. 7D

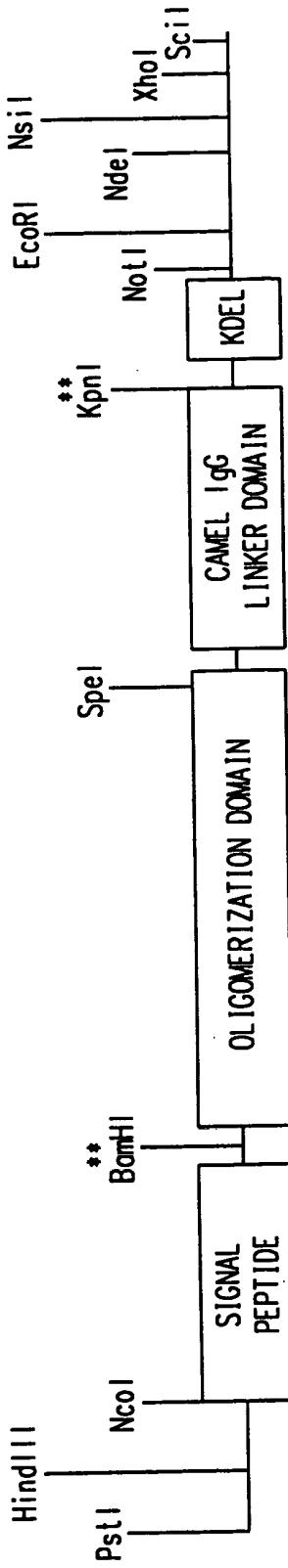


FIG. 8A

SIGNAL CLEAVAGE SITE

↓

M R Y M I L G L L A A V C S A A K K - G S S -

L G G D C C C - G E Q T K A L V T Q L T I F N Q I L V E L R D D I R D Q V K E M S L I R N T I M E C Q V C G -

P Q P Q P K P Q P Q P Q P K P E P E - G T G S S E - K D E L

FIG. 8B

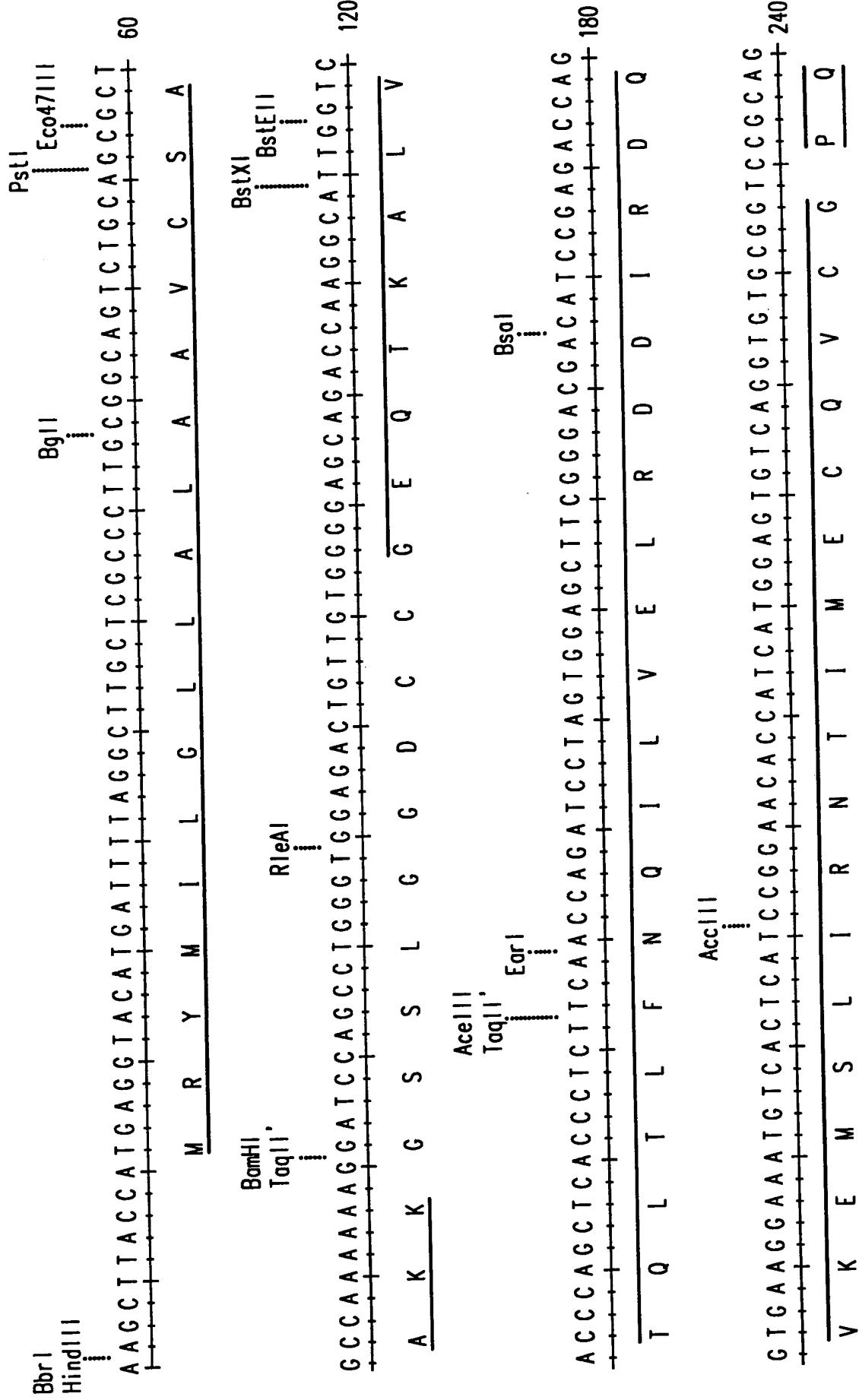


FIG. 8C

300

360

369

300

360

369

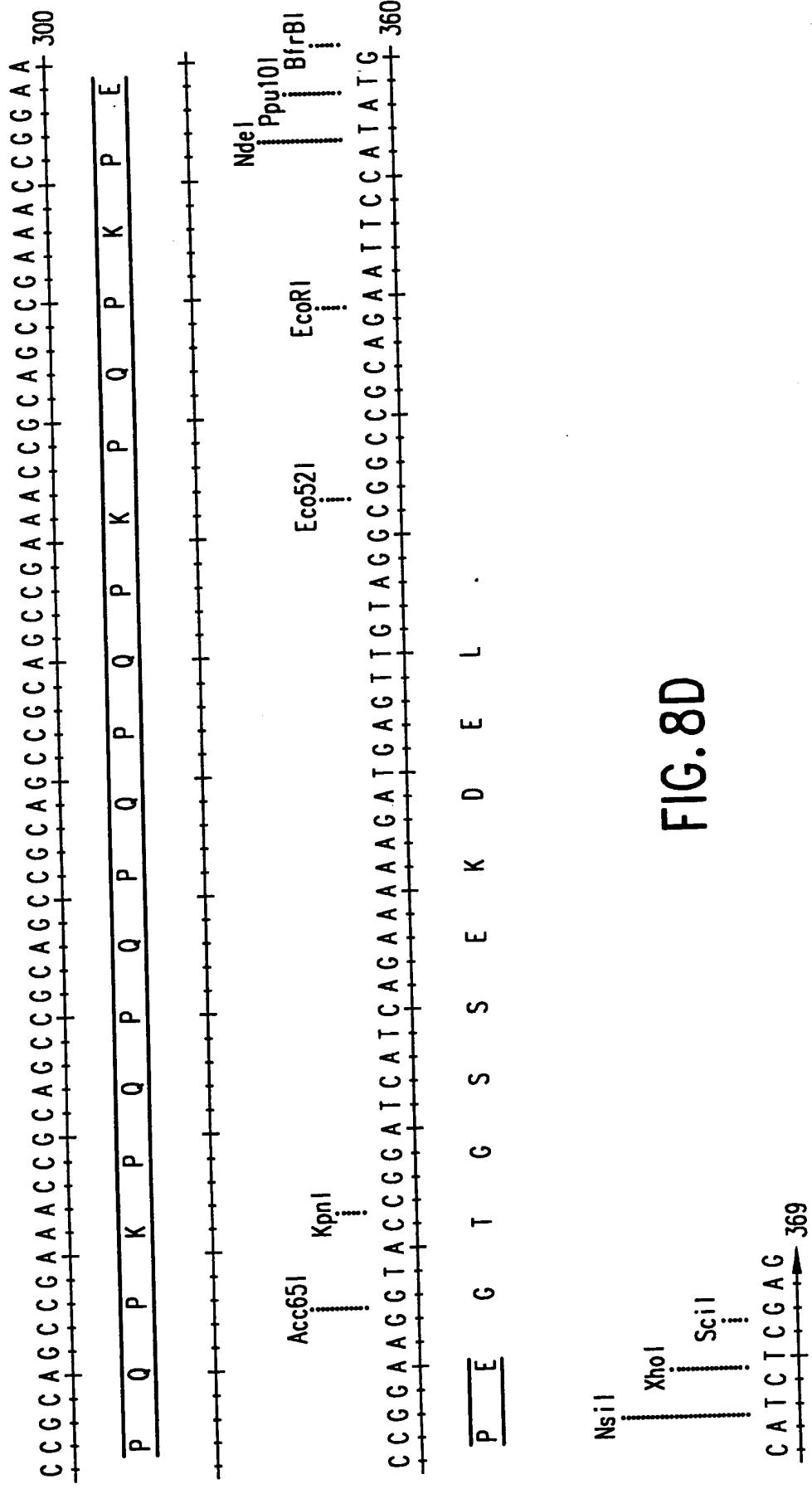


FIG. 8D

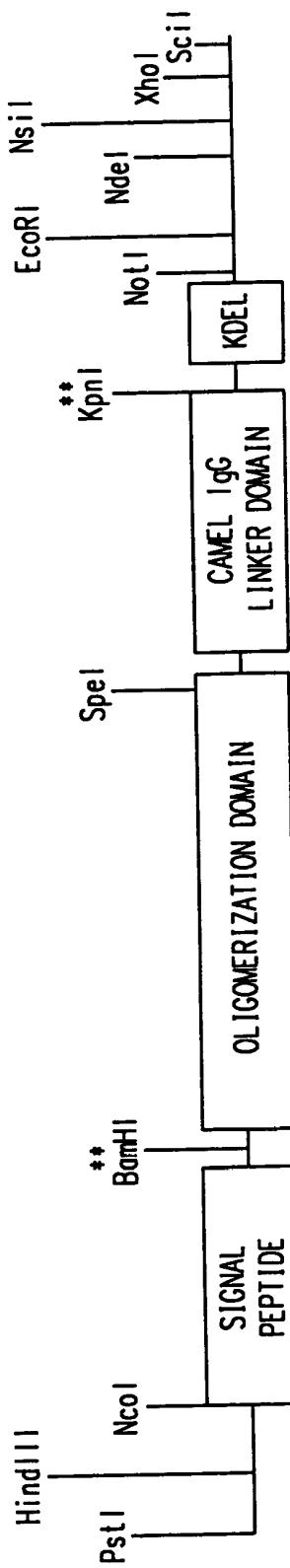


FIG. 9A

SIGNAL CLEAVAGE SITE
 ↓
M R Y M I L G L L A A V C S A A K K - G S S -

L G D C C - G D F N R Q F L G Q M T Q L N Q L L G E V K D L L R Q Q V K E T S F L R N T I A E C Q A C G -

P Q P Q P K P Q P Q P Q P K P E P E - G T G S S E - K D E L

FIG. 9B

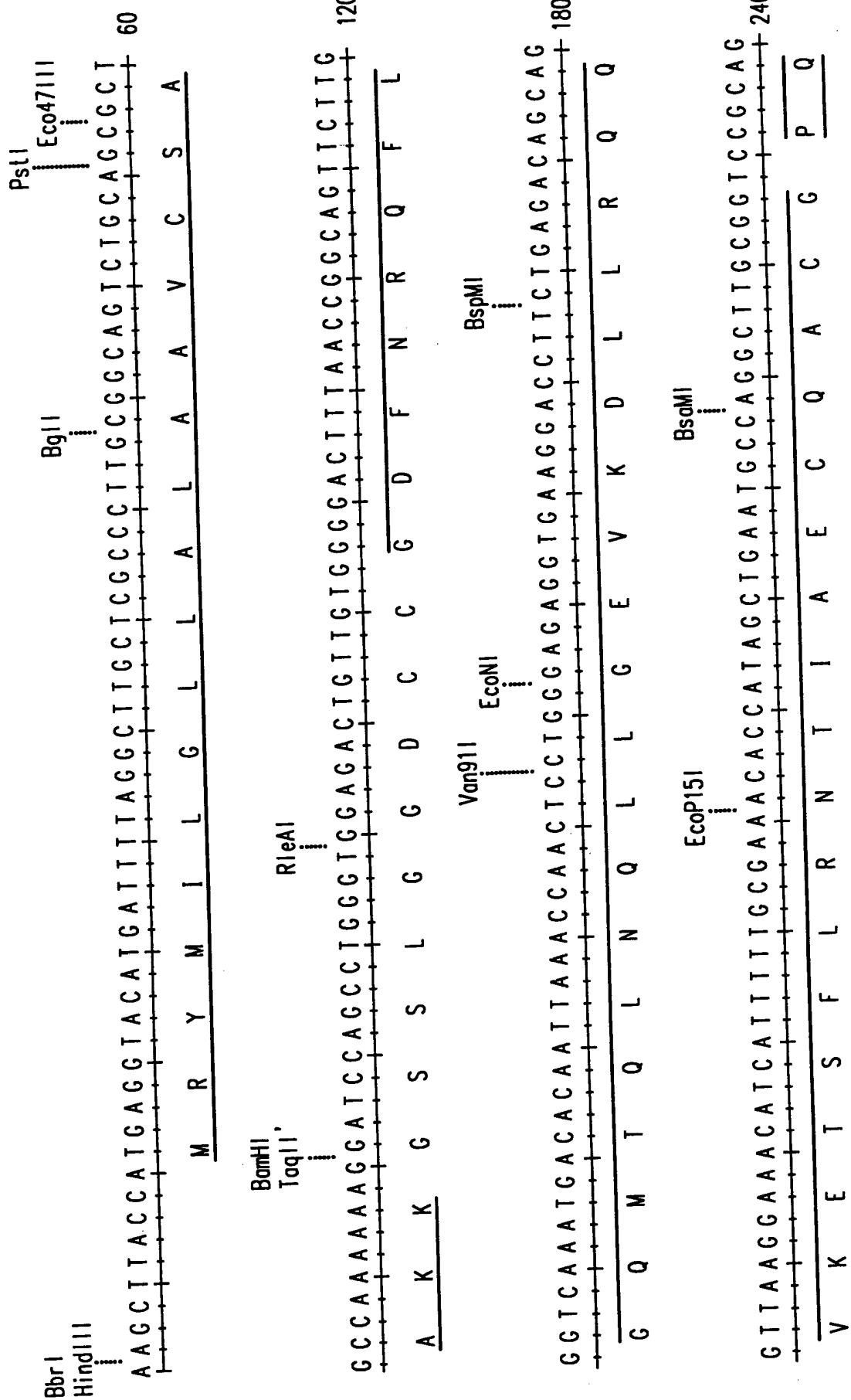


FIG. 9C

CCCGAAGGTACCGATCATCAGAAAAGATGACTTGTAGCCCCAGAAATTCCATATG

CCCCACCCCCAACCCCCAGCCCCAGCCCCAAGCCCCAACCCCCAACCGGAA+A
300

P Q P K P Q P Q P K P K P E

.....

Acc65I KpnI
.....

CCGGAAAGGTACCGATCATCAGAAAAGATGACTTGTAGCCCCAGAAATTCCATATG
360

P E G T G S S E K D E L

NsiI XbaI SceI
.....

CATCTCGAAG 369

FIG. 9D

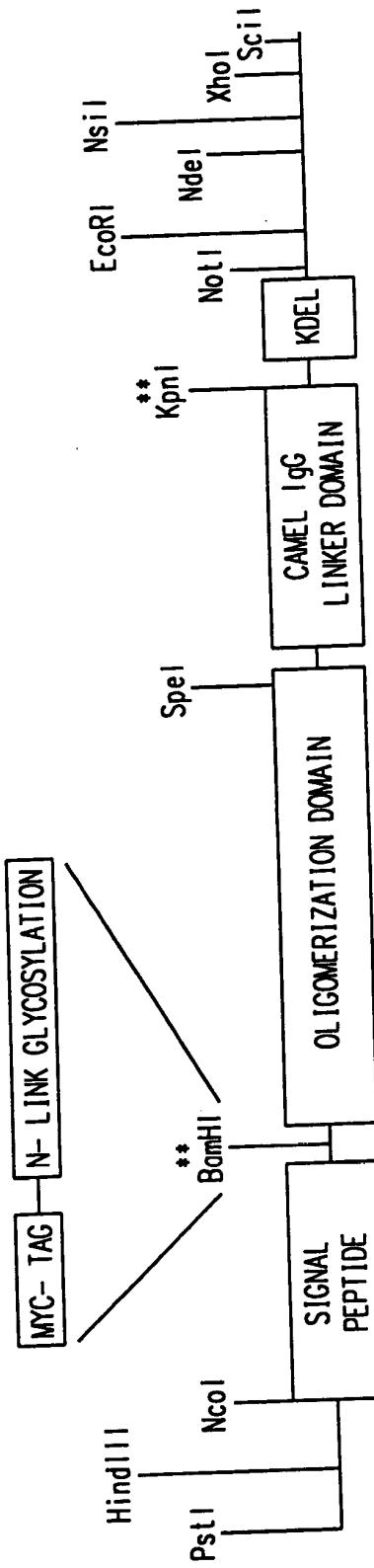


FIG. 10A

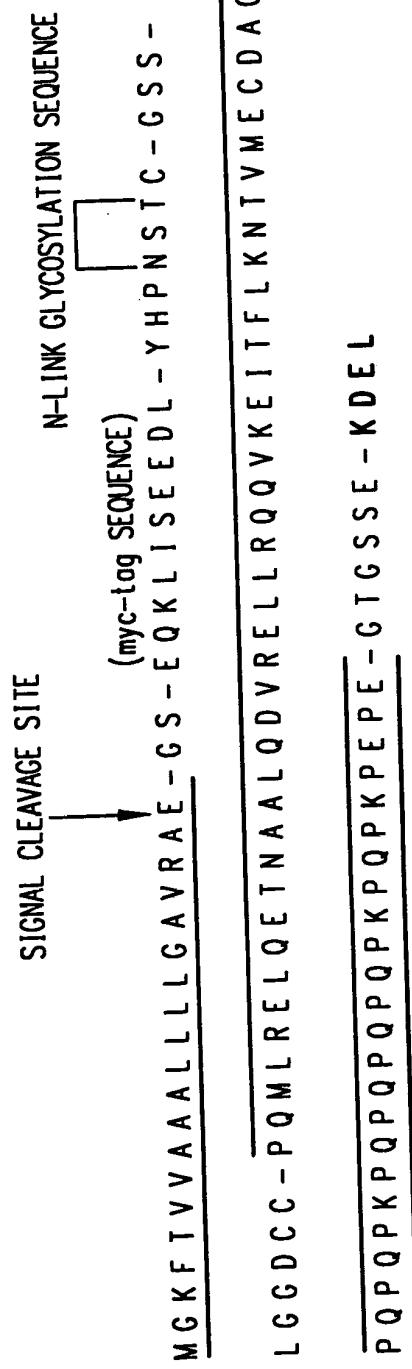


FIG. 10B

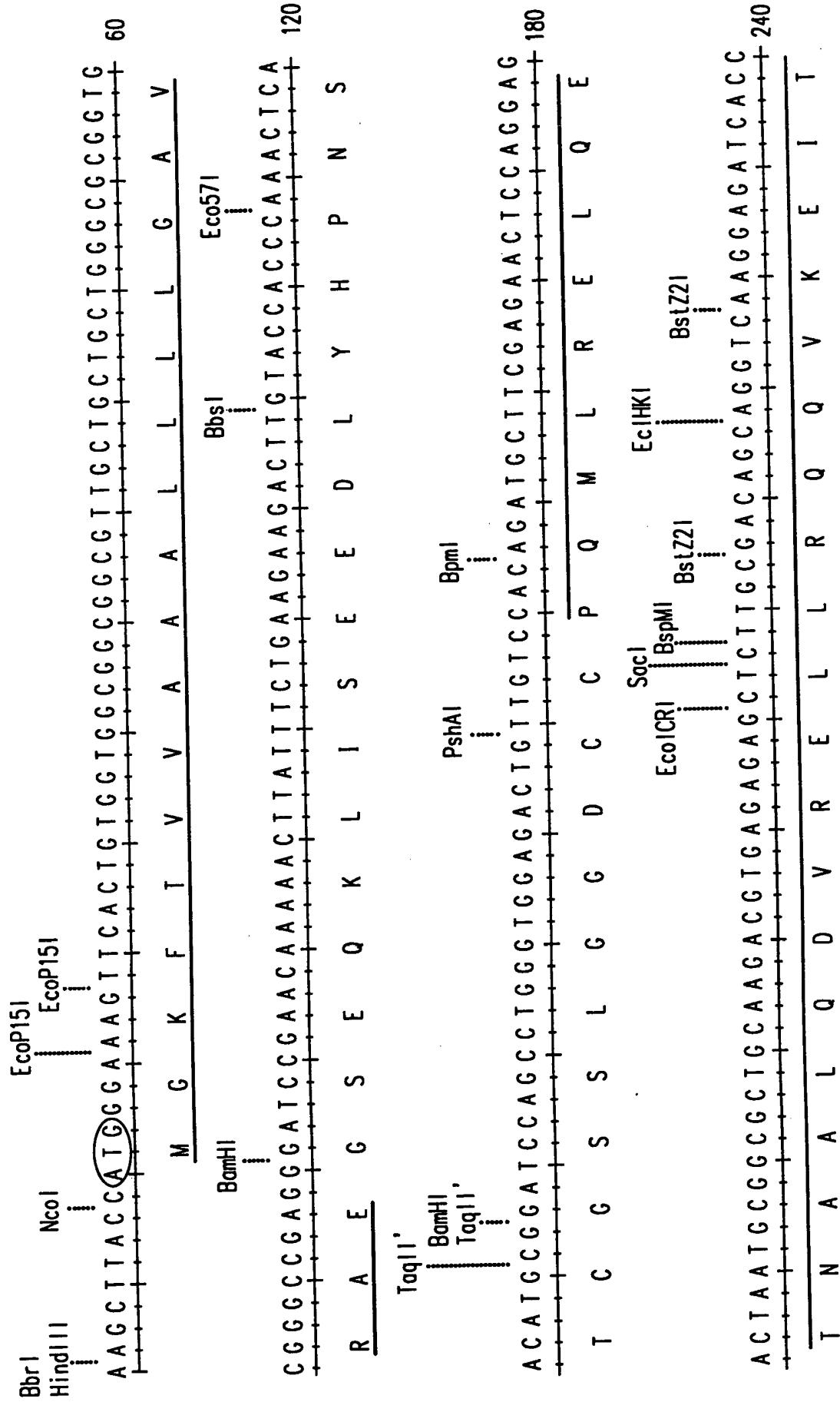
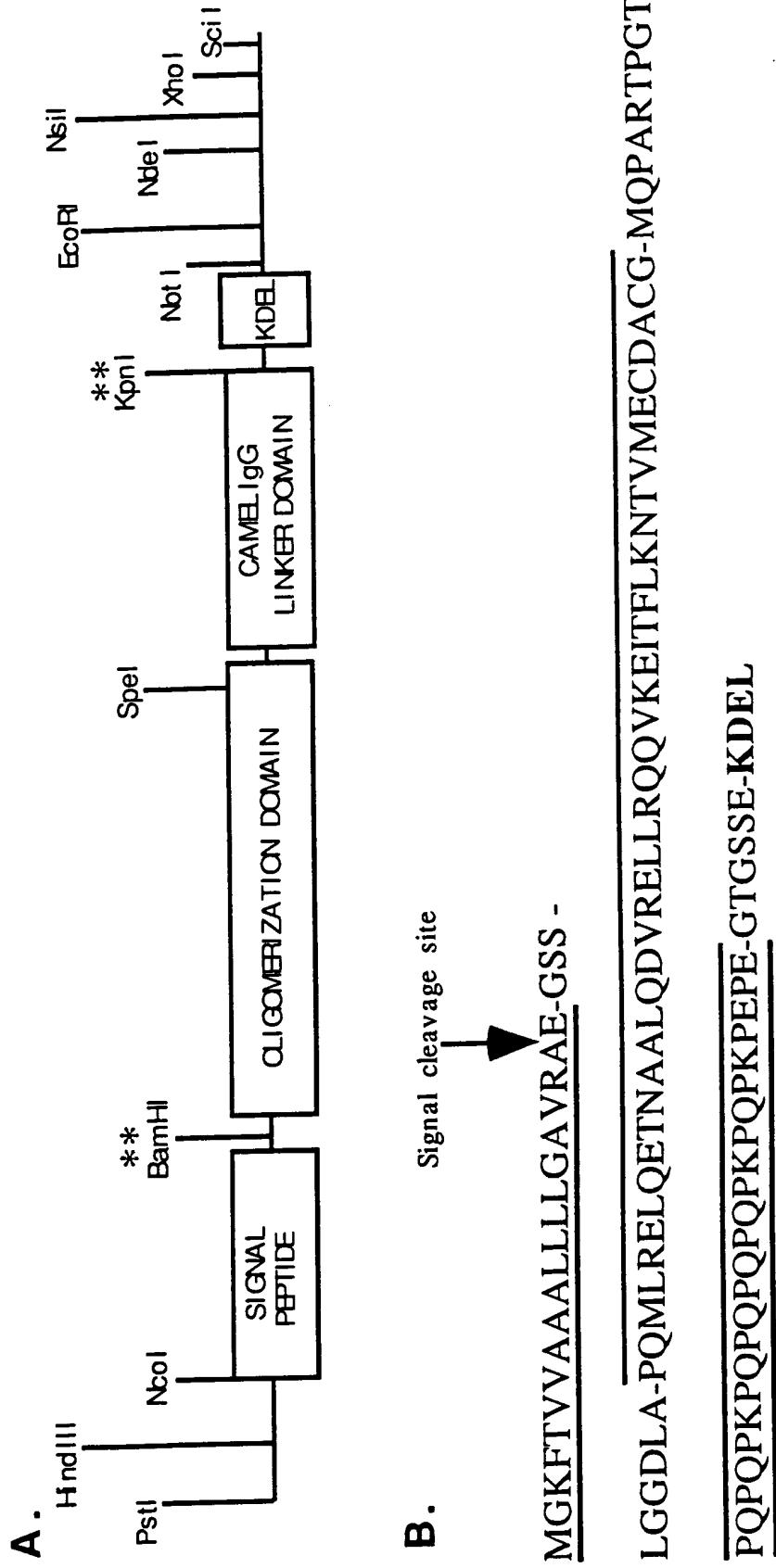


FIG. 10C

FIG. 10D

3/14/88 (sheet 1 of 2)

Figure 1: Schematic Representation of KDEL Receptor-Inhibitor Protein and Its Amino Acid Sequences (Rat COMP oligomerization domain)



31488 (sheet 2 of 25)

FIGURE 1C.

60

M G K F T V V A A A L L L L L G A V

R A E G S S L G G D L A P Q M L R E L Q

EcoICR I
Sac I
BspM I
BstZ2 I
EclHK I
BstZ2 I

GAGACTAATGCGGCGCTGCAAGACGTGAGAGAGCTTGCACAGCAGGTCAAGGAGATC

180

E T N A A L Q D V R E L L R Q Q V K E I

T F L K N T V M E C D A C G M Q P A R T

314F8 (sheet 3 of 3)

Spe I

CCCGGTACTAGTCGCAGCCGCAGCGAAACCGCAGCCGCAGCCGCAGCCGAAACCGA
300

P G T S P Q P Q P K P Q P Q P Q P K

Acc65 I
Kpn I
Eco52 I

GGCAGCCGAAACCGGAACCGGAAGGTACCGGATCATCAGAAAAAGATGAGTTG **TAGGCG**
360

P Q P K P E P E G T G S S E K D E L

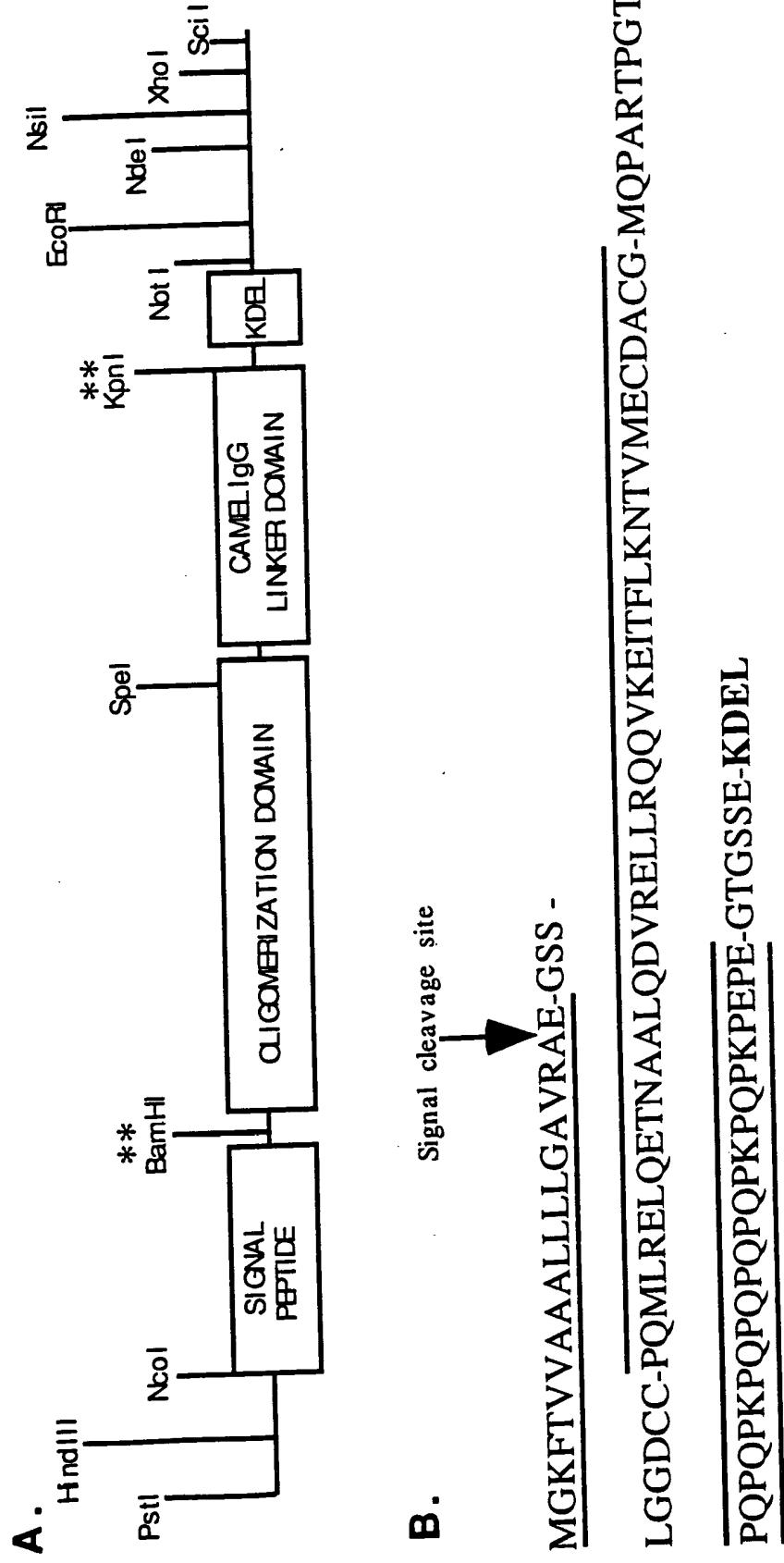
FIGURE 1D.

Nde I
Ppu10 I
BfrB I
Nsi I
Xho I
Sci I
EcoR I

GCCGCAGAATTCCATATGCATCTCGAG
387

3,188 (Sheet 4 of 30)

Figure 2: Schematic Representation of KDEL Receptor-Inhibitor Protein and Its Amino Acid Sequences (Rat COMP oligomerization domain)



31.88 (sheet 5 of 30)

FIGURE 2C.

FIGURE 2C.

Top Diagram: A sequence from position 1 to 60. It shows a restriction site for EcoP15 I at positions 1-2 and another at positions 4-5. A Nco I site is at position 3. A circled sequence AATGGGAAAG is underlined. The protein sequence is: M G K F T V V A A A L L L L G A V.

Second Diagram: A sequence from position 1 to 120. It shows restriction sites for BamH I at position 1, Taq II' at position 2, PshA I at position 45, and Bpm I at position 55. The protein sequence is: P A E G S S L G G D C C P Q M L R E L Q.

Third Diagram: A sequence from position 1 to 180. It shows restriction sites for EcoICR I at position 1, Sac I at position 2, BspM I at position 3, BstZ2 I at position 4, EclHK I at position 5, and BstZ2 I at position 6. The protein sequence is: E T N A A L Q D V R E L L R Q Q V K E I.

Bottom Diagram: A sequence from position 1 to 240. It shows restriction sites for EcoP15 I at position 1, Eco57 I at position 2, and BsaM I at position 185. The protein sequence is: T F L K N T V M E C D A C G M Q P A R T.

314.8 (sheet 6 of 30)

Spe I

CCCGGTACTAGTCCGCAGCCGCAGCGAAACCGCAGCCGCAGCCGCAGCCGCAGCCGAAA

300

P G T S P Q P Q P K P Q P Q P Q P K

Acc65 I
Kpn I

Eco52 I

CGCGAGCCGAAACCGGAACCGGAAGGTACCGGATCATCAGAAAAAGATGAGTTG **TAGGCG**

360

P Q P K P E P E G T G S S E K D E L .

EcoR I

Nde I

Ppu10 I

BfrB I

Nsi I

Xho I

Sci I

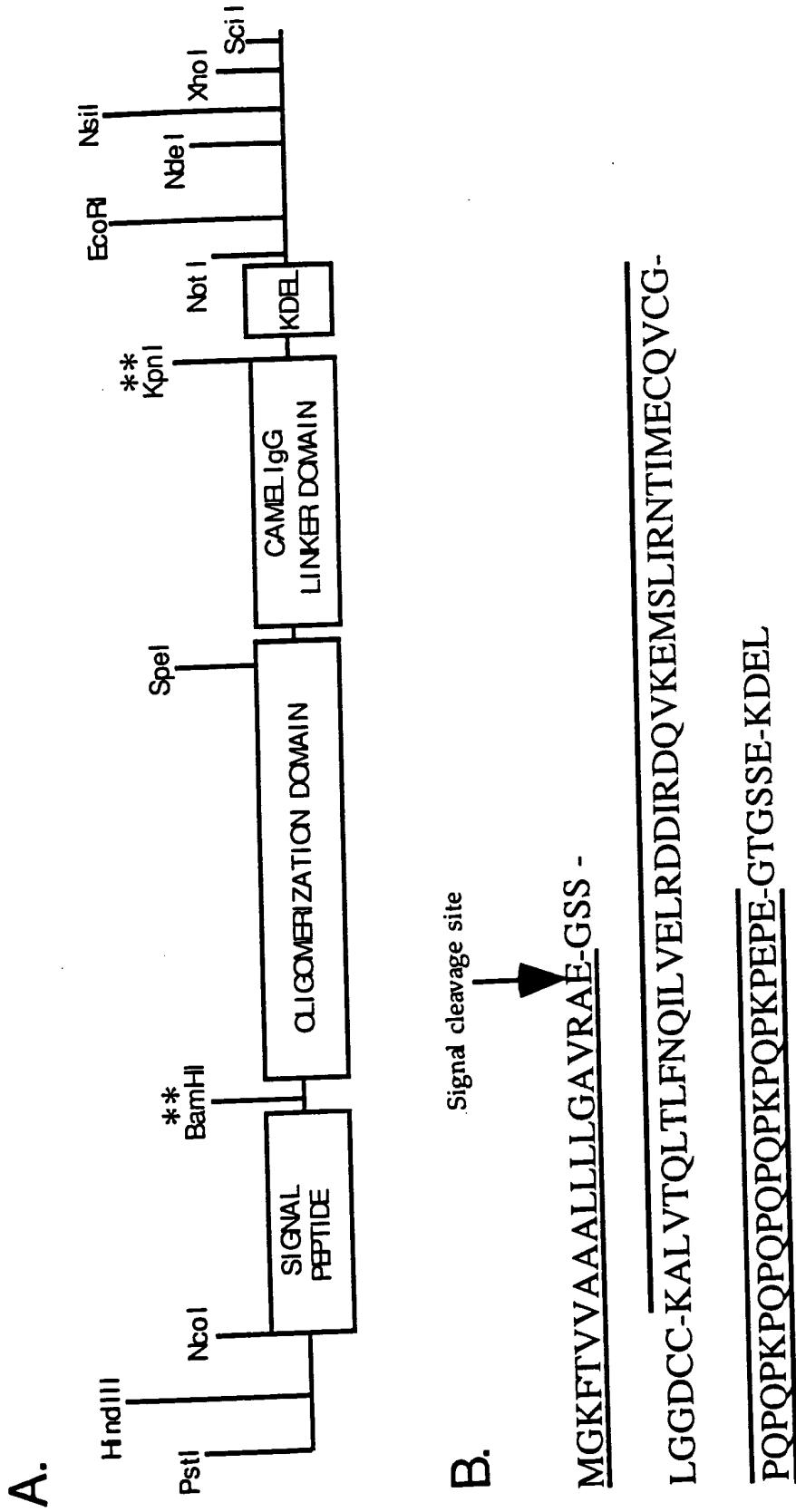
GCCGCAGAATTCCATATGCATCTCGAG

387

FIGURE 2D.

3.188 (sheet 7 of 30)

Figure 3: MOUSE TSP3 OLIGOMERIZATION DOMAIN KDEL RECEPTOR INHIBITOR PROTEIN



30188 (sheet 8 of 30)

Top Diagram:

Bbr I Hind III Nco I EcoP15 I EcoP15 I

AAGCTTACGATGGAAAGTTCACTGTGGTGGCGGCCGTTGCTGCTGGCGCGGTG + 60

M G K F T V V A A A L L L L G A V

Second Diagram:

BamH I Taq II

GGGGCCGAGGGATCCAGCCTGGGTGGAGACTGTTGTAAGGCATTGGTCACCCAGCTCACC + 120

R A E G S S L G G D C C K A L V T Q L T

Third Diagram:

Ace III Taq II Ear I Bsa I

CTCTTCAACCAGATCCTAGTGGAGCTTCGGGACGACATCCGAGACCAGGTGAAGGAAATG + 180

L F N Q I L V E L R D D I R D Q V K E M

Bottom Diagram:

Acc III

TCACTCATCCGGAACACCATCATGGAGTGTCAAGGTGTGCGGTCCGCAGCCGAGCCGAAA + 240

S L I R N T I M E C Q V C G P Q P Q P K

FIGURE 3C.

31488 (sheet 9 of 30)

Acc65 I
Kpn I

CCGCAGCCGCAGCCGCAGCCGCAGCCGAAACCGCAGCCGAAACCGGAACCGGAAGGTACC
+ 300

P Q P Q P Q P K P Q P K P E P E G T

Nde I
Ppu10 I
BfrB I
Nsi I
Xho I
Sci I

Eco52 I EcoR I

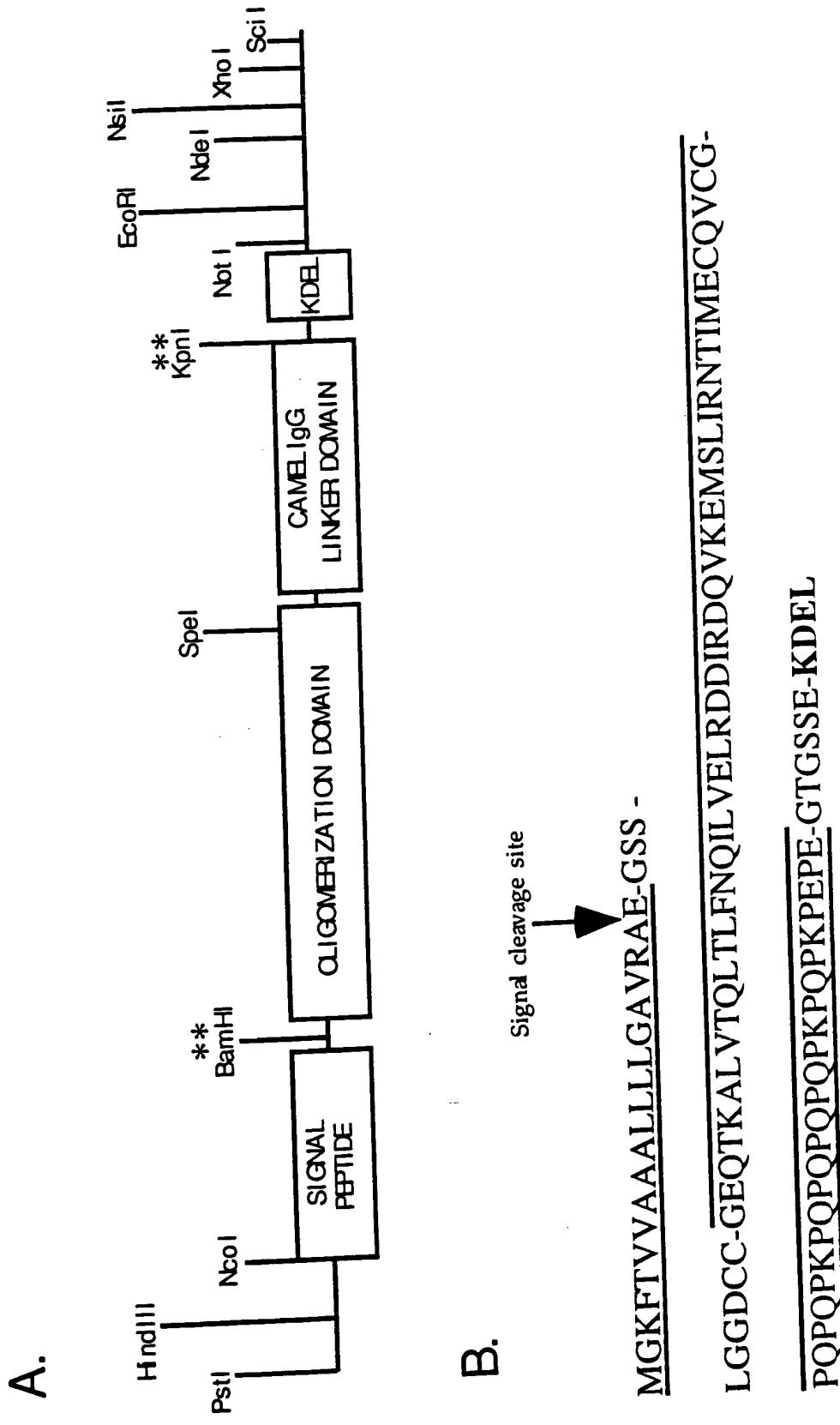
GGATCATCAGAAAAAGATGAGTTG TAGGCCGAGAATTCCATATGCATCTCGAG + 357

S S E K D E L

FIGURE 3D

31488 (Sheet 10 of 50)

Figure 4: MOUSE TSP3 OLIGOMERIZATION DOMAIN KDEL RECEPTOR INHIBITOR PROTEIN



31, 88 (sheet 11 of 30)

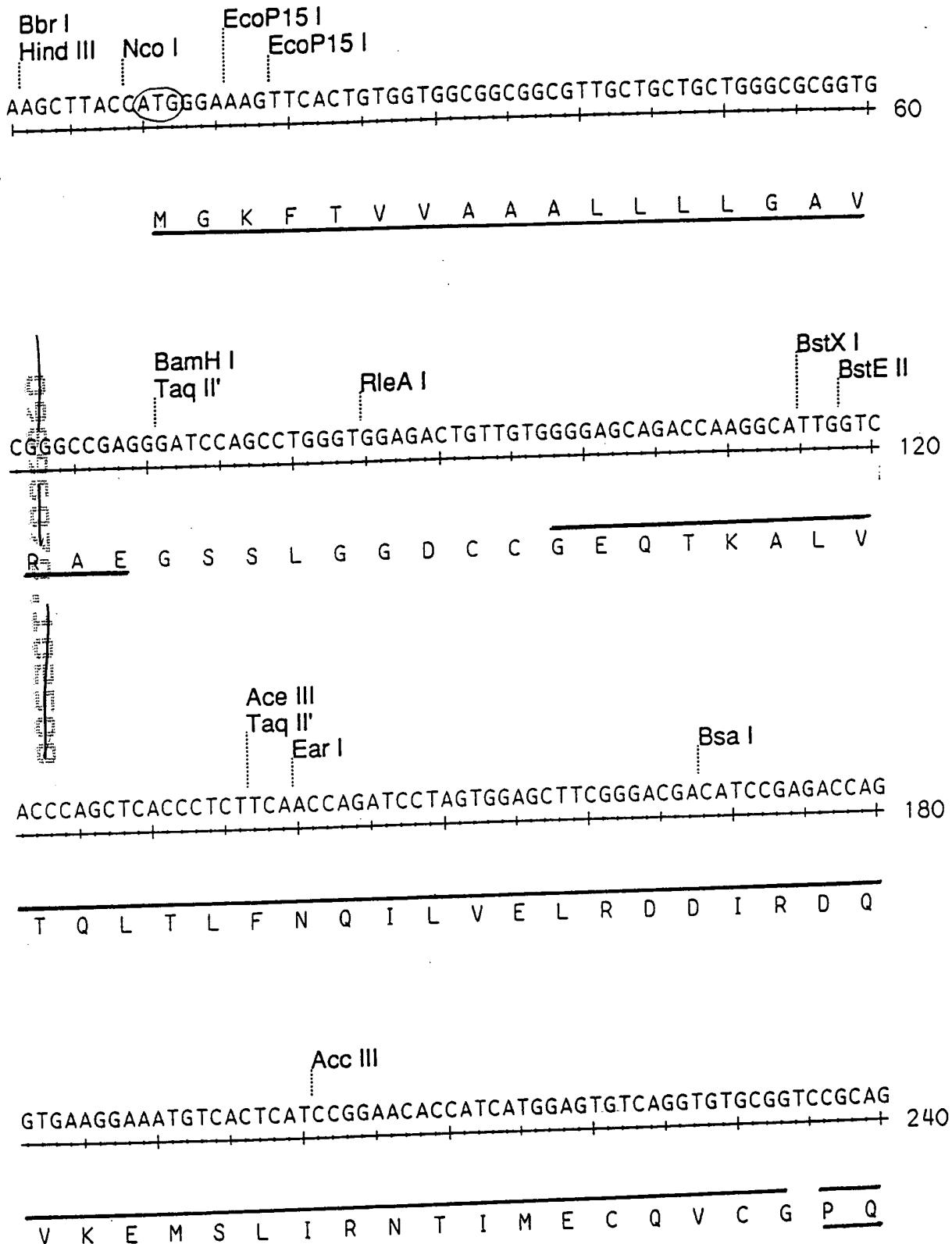


FIGURE 4C.

31,88 (sheet 12 of 30)

CCGCAGCCGAAACCGCAGCCGCAGCCGCAGCCGAAACCGCAGCCGAAACCGGAA 300

P Q P K P Q P Q P Q P K P Q P K P E

Acc65 I
Kpn I

Eco52 I EcoR I

Nde I
Ppu10 I
BfrB I

CCGGAAGGTACCGGATCATCAGAAAAAGATGAGTTG TAG GCGGCCGAGAATTCCATATG 360

P E G T G S S E K D E L .

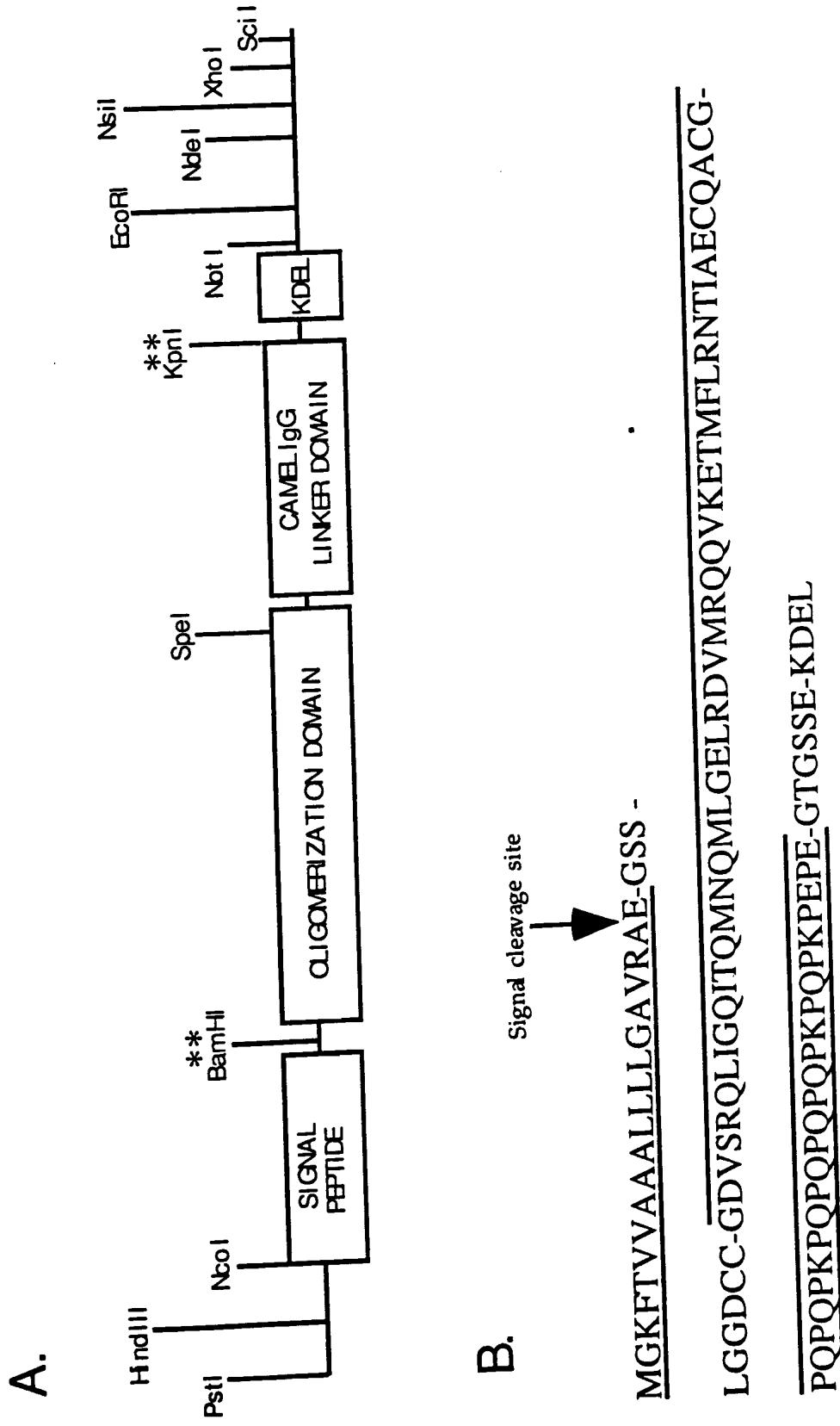
Nsi I
Xho I
Sce I

CATCTCGAG 369

FIGURE 4D.

31488 (sheet 13 of 30)

Figure 5: XENOPUS TSP4 OLIGOMERIZATION DOMAIN KDEL RECEPTOR INHIBITOR PROTEIN



31488 (sheet 14 of 30)

Diagram of a DNA sequence with restriction enzyme sites (Bbr I, Hind III, Nco I, EcoP15 I) and a circled sequence (ATGGGAAAGTT). The sequence ends at position 60.

Bbr I EcoP15 I
 Hind III Nco I EcoP15 I
 AAGCTTACCA **ATGGGAAAGTT** CACTGTGGTGGCGGGCGTTGCTGCTGCTGGCGCGGTG + 60

M G K F T V V A A A L L L L L G A V

Sequence diagram showing a DNA segment with restriction sites and a protein sequence alignment.

Restriction sites indicated:

- BamH I
- Taq II'
- Aat II
- Msp20 I

DNA sequence:

```

CGGGCCGAGGGATCCAGCTGGGTGGAGACTGTTGTGGTGACGTCAGCAGACAGTTGATT

```

Protein sequence alignment:

```

A E G S S L G G D C C G D V S R Q L I

```

Position 120 is marked on the right.

Detailed description: This figure shows a DNA sequence with various restriction enzyme cleavage sites marked by vertical dotted lines. The enzymes listed are *Bal I*, *Msp20 I*, *EcoP15 I*, *AlwN I*, *EcoICR I*, *Sac I*, *BspH I*, and *BspM I*. The sequence itself is: GGCCAGATAACCCAAATGAATCAGATGCTGGGAGAGCTCCGAGATGTCATGAGACAGCAG. Below the sequence, a protein sequence is shown with the following amino acid sequence: G Q I T Q M N Q M L G E L R D V M R Q Q. The number 180 is at the far right end of the sequence.

Diagram illustrating a DNA sequence with restriction enzyme sites and a corresponding protein sequence.

The DNA sequence is: GTGAAAGAGACCATGTTCTTGAGAAACACCATTGCAGAATGCCAGGCCTGTGGCCCGCAG

Enzyme restriction sites are indicated by vertical dotted lines and labels:

- Bsa I
- EcoP15 I
- BsrD I
- Bce83 I
- BsaM I
- Stu I
- BstX I

The sequence ends at position 240.

The protein sequence below is: V K E T M F L R N T I A E C Q A C G P Q

FIGURE 5C

3148 (sheet 15 of 30)

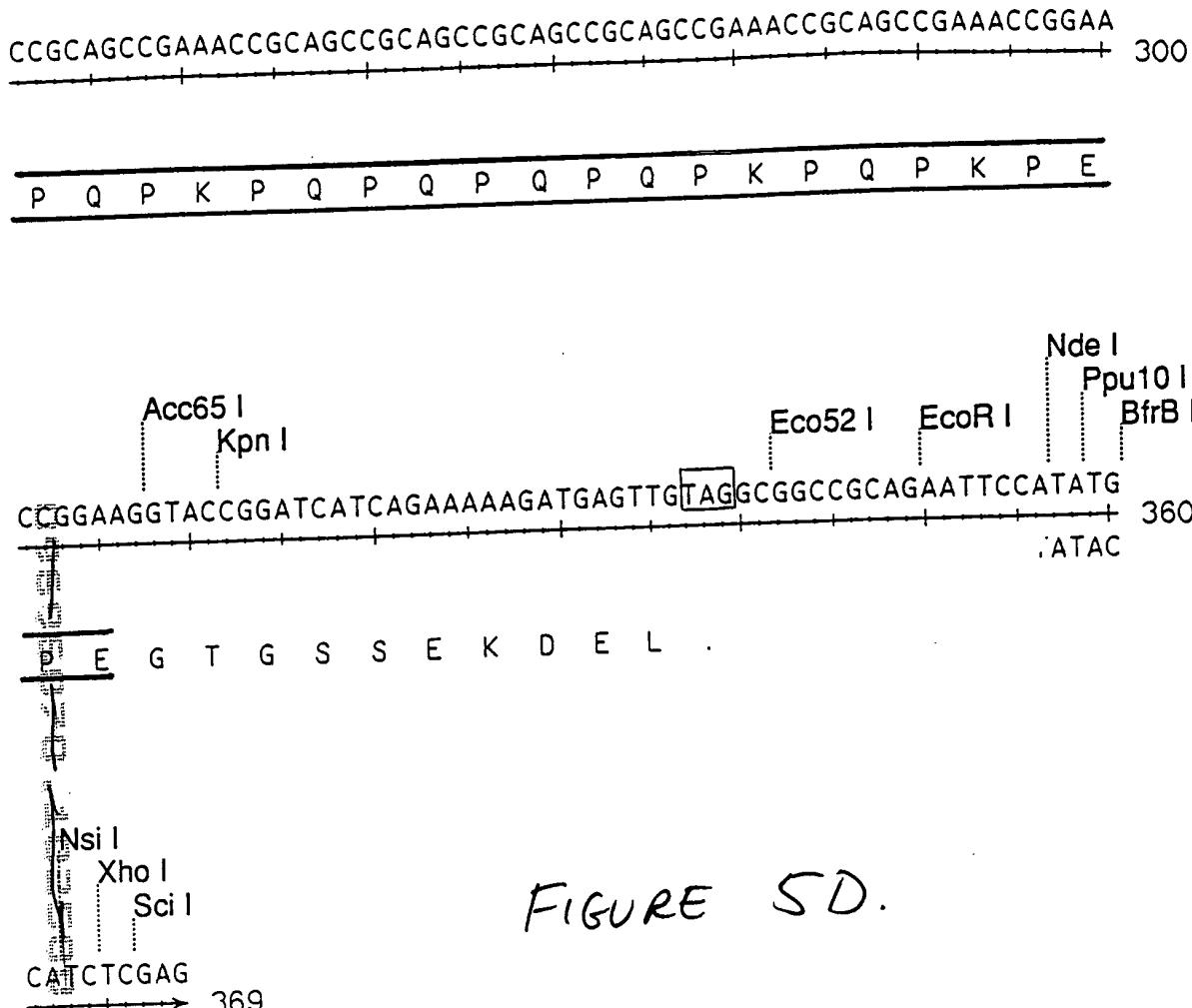
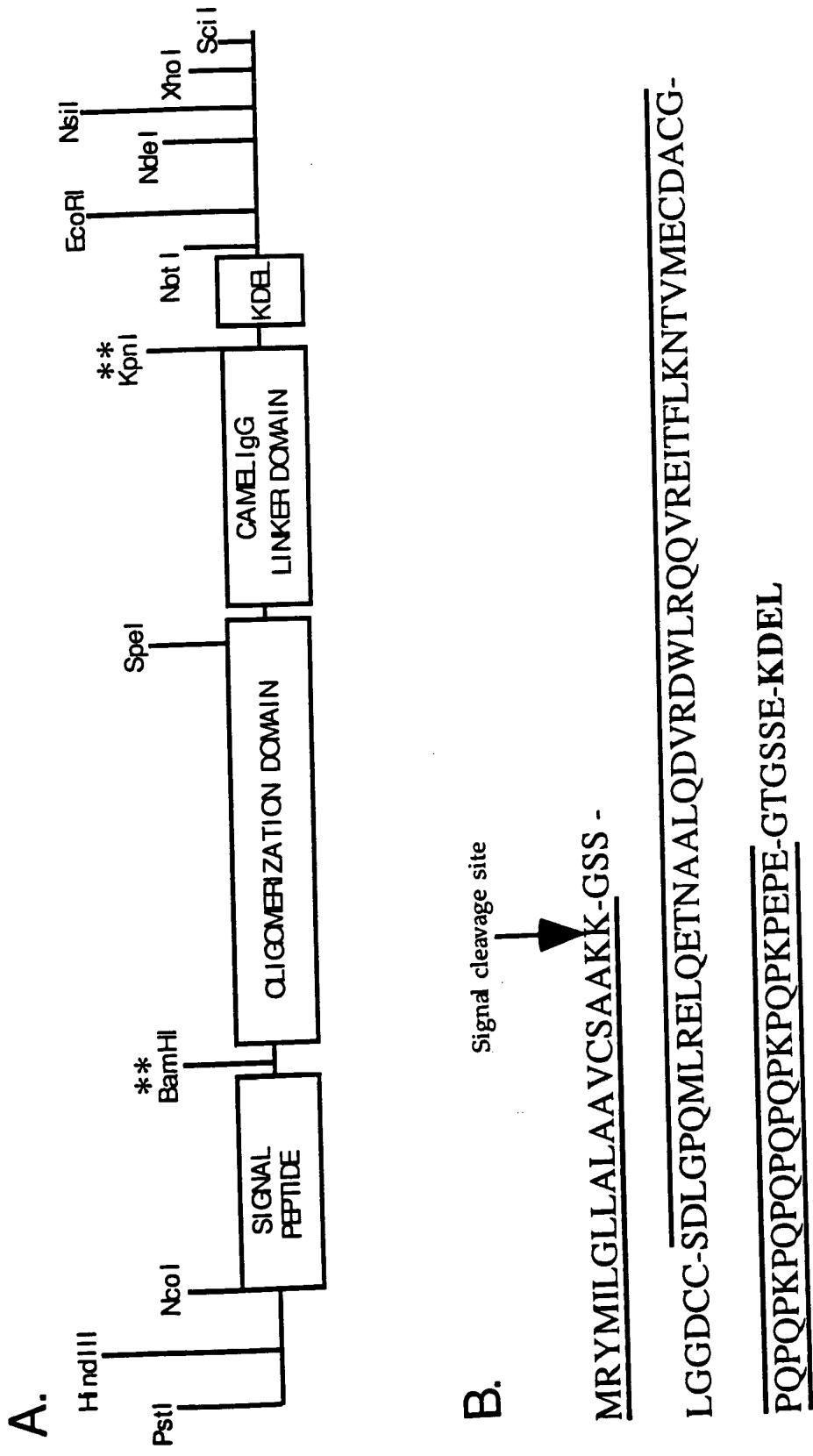


FIGURE 5D.

Figure 6: HUMAN COMP OLIGOMERIZATION DOMAIN
KDEL RECEPTOR INHIBITOR PROTEIN



31488 (sheet 17 of 30)

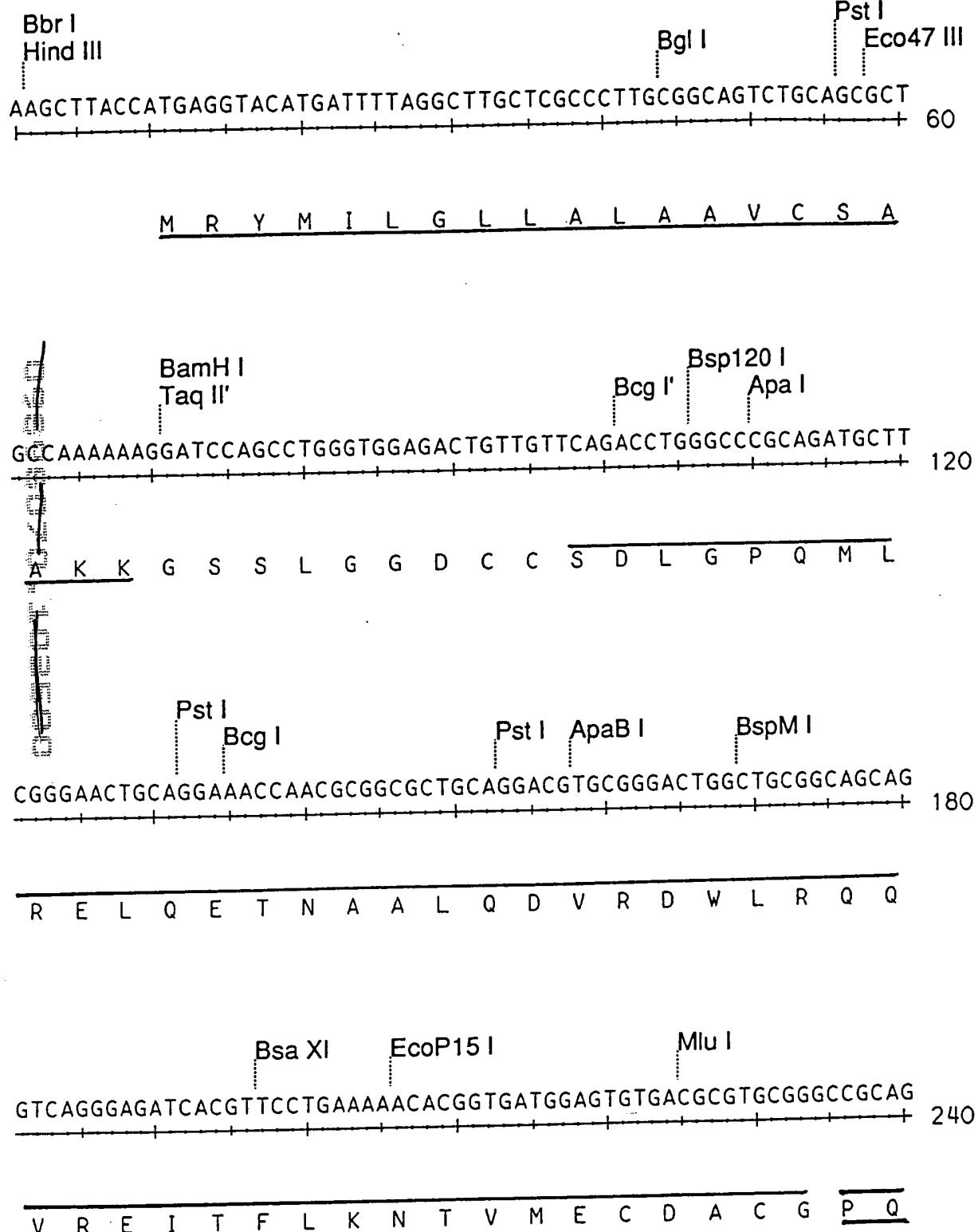


FIGURE 6C.

31488 (Sheet 18 of 30)

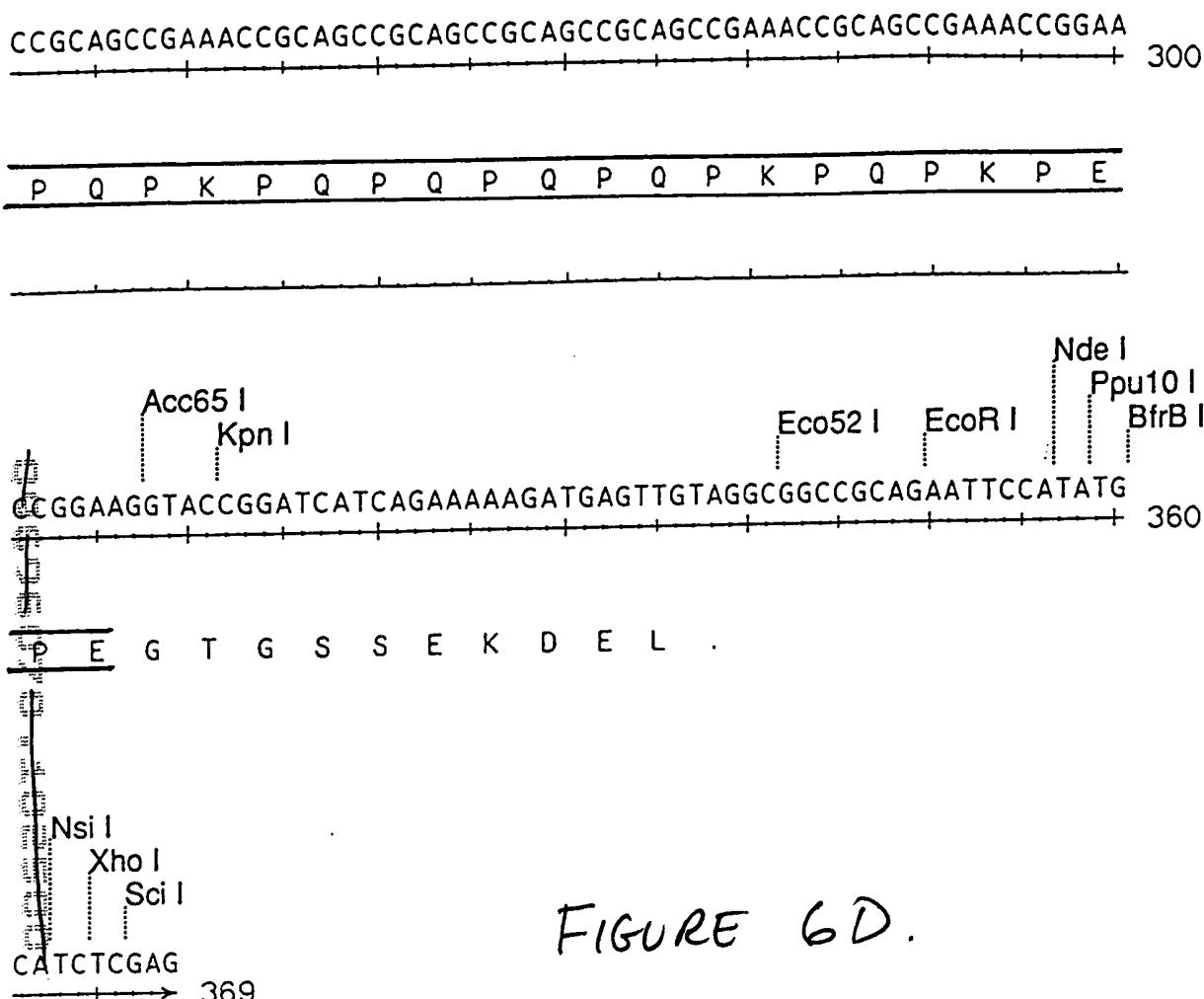
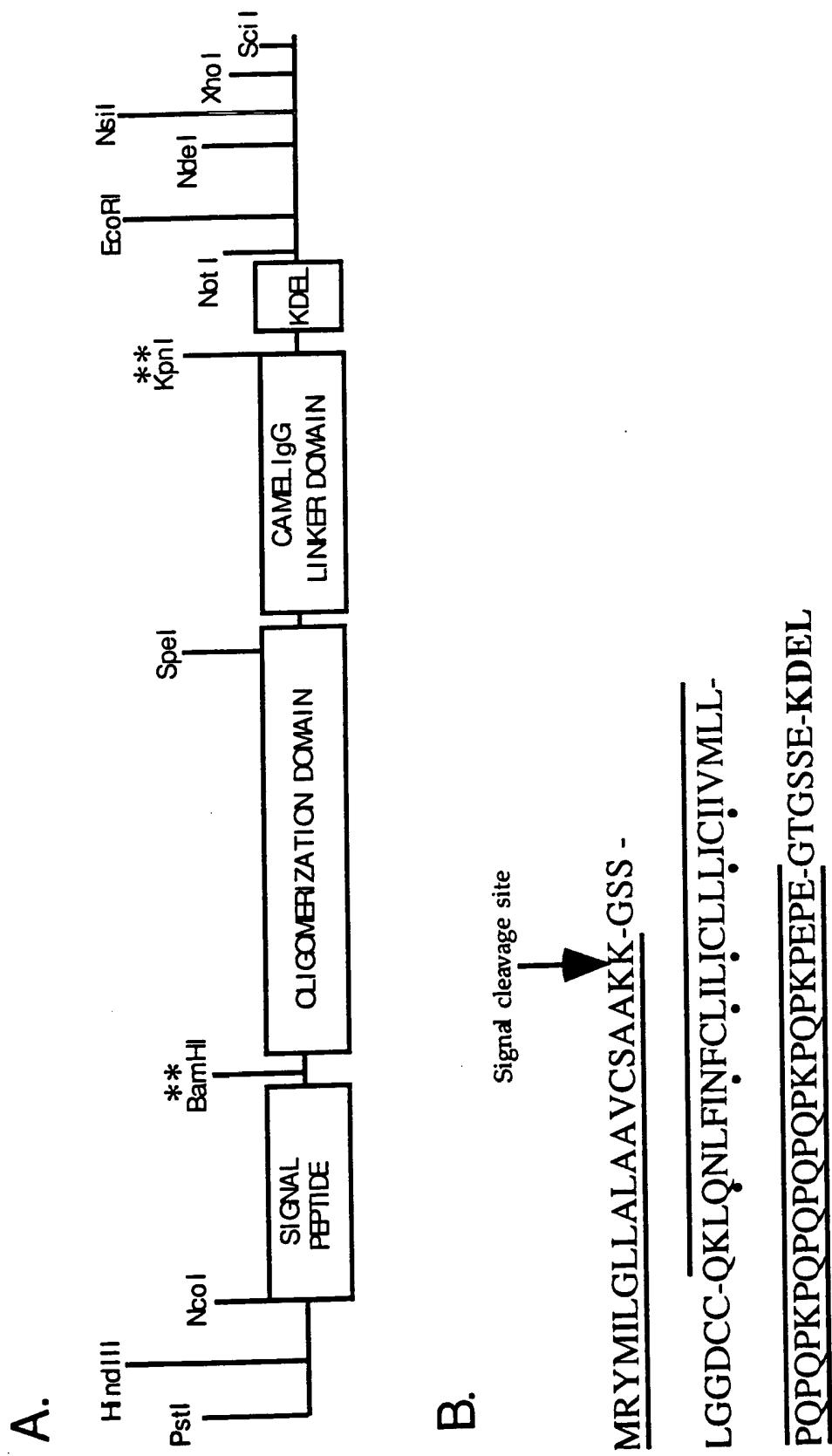


FIGURE 6D.

Figure 7: HUMAN PLB OLIGOMERIZATION DOMAIN KDEL RECEPTOR INHIBITOR PROTEIN



- Residues critical for pentamer formation

31788 (sheet 20 of 30)

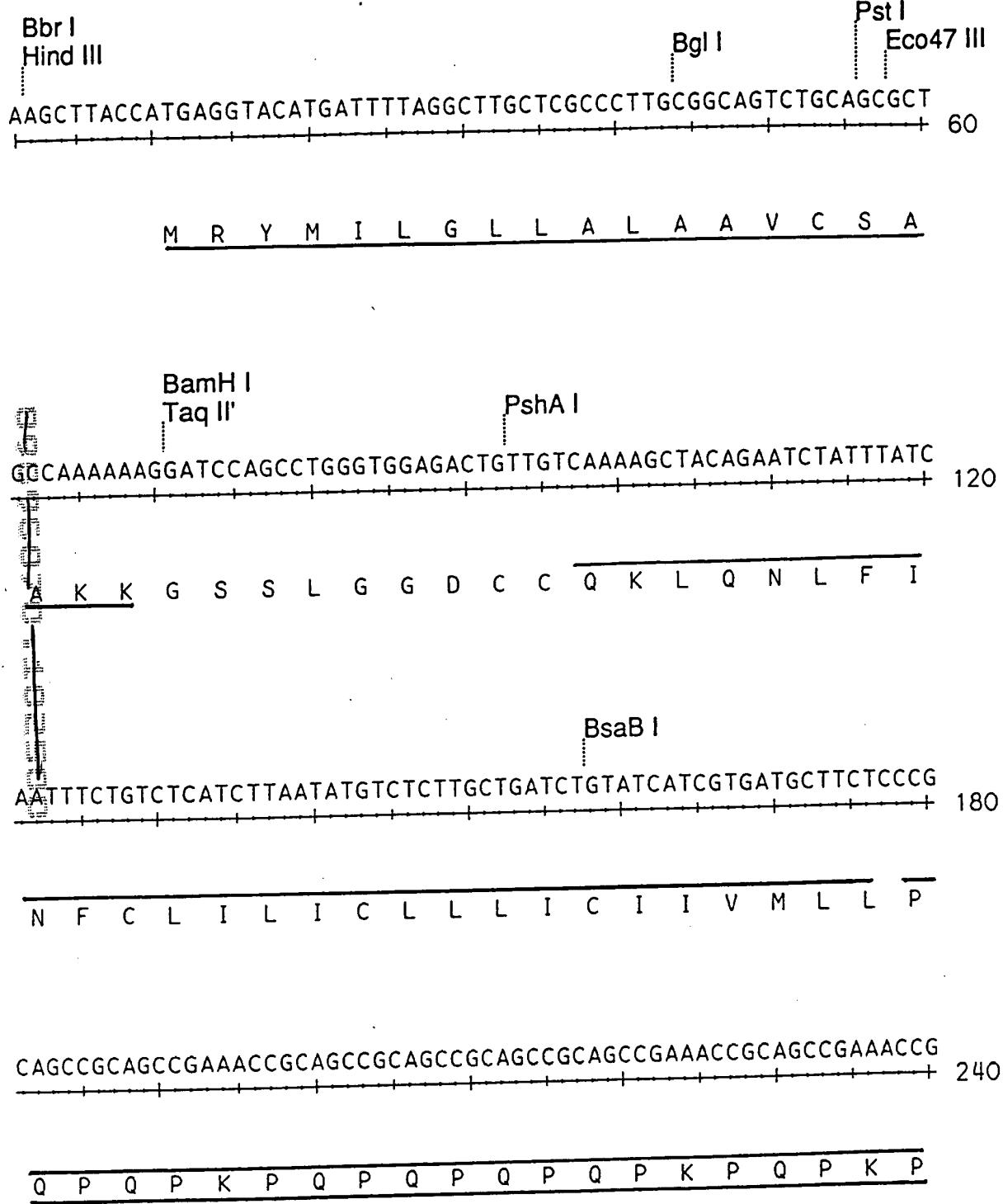


FIGURE 7C.

91488 (sheet 21 of 30)

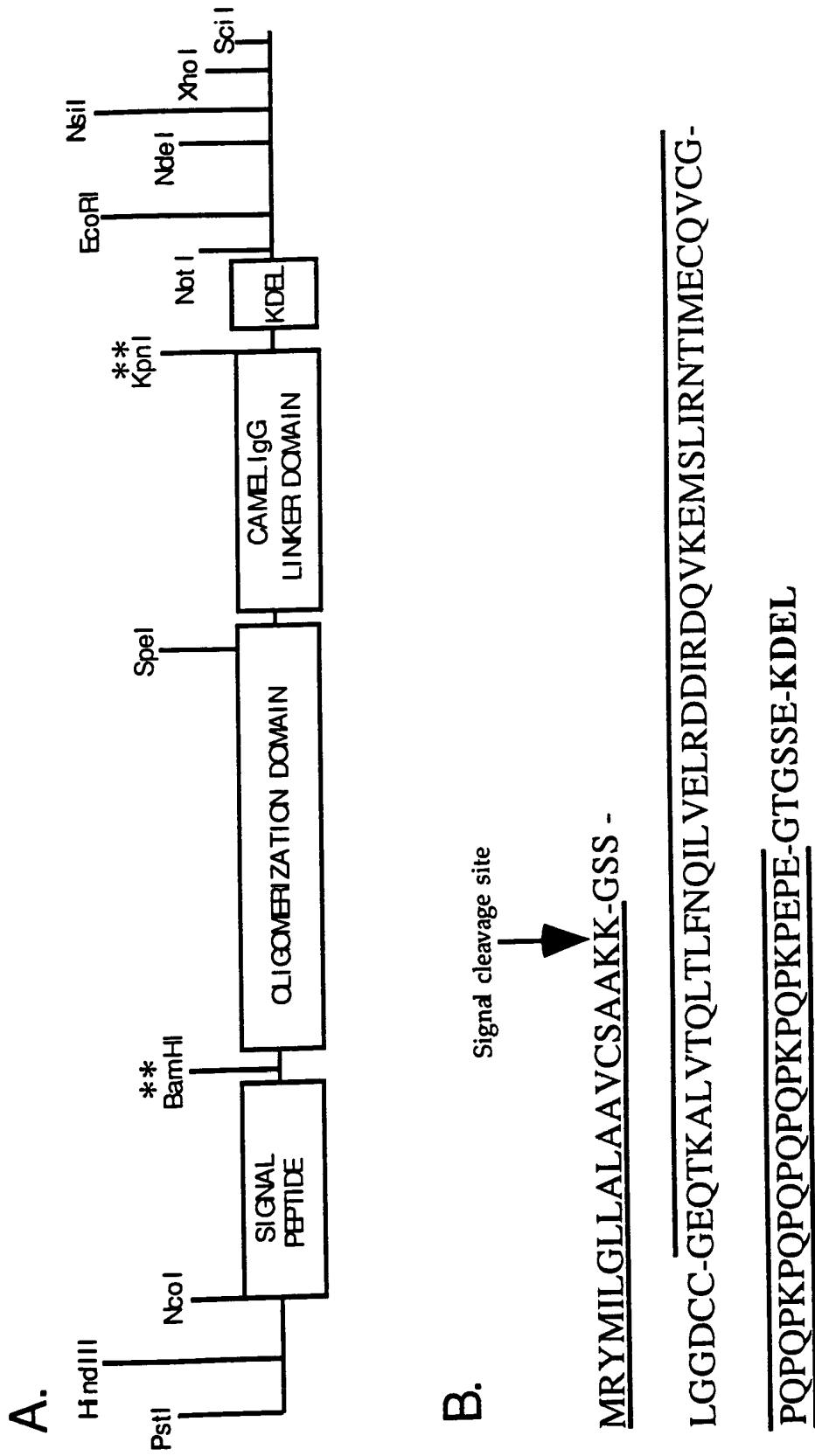
Diagram of a DNA sequence:

- Sequence: ATGCATCTCGAG
- Start site: Indicated by a vertical arrow above the sequence.
- Enzyme sites:
 - Ppu10 I (top left)
 - BfrB I (above Ppu10 I)
 - Nsi I (above BfrB I)
 - Xho I (above Nsi I)
 - Sci I (below Xho I)
- Length: 312 bp

FIGURE 7D.

31488 (sheet 22 of 30)

Figure 8: HUMAN TSP3 OLIGOMERIZATION DOMAIN KDEL RECEPTOR INHIBITOR PROTEIN



31488 (sheet 23 of 30)

60

120

180

240

100

160

200

280

FIGURE 8C.

31488 (sheet 24 of 30)

CCGCAGCCGAAACCGCAGCCGCAGCCGCAGCCGAAACCGCAGCCGAAACCGGAA + 300

P Q P K P Q P Q P K P Q P K P E

Acc65 I
Kpn I

Nde I
Ppu10 I
BfrB I

CCGGAAGGTACCGGATCATCAGAAAAAGATGAGTTAGGC GGCGCAGAATTCCATATG + 360

P E G T G S S E K D E L .

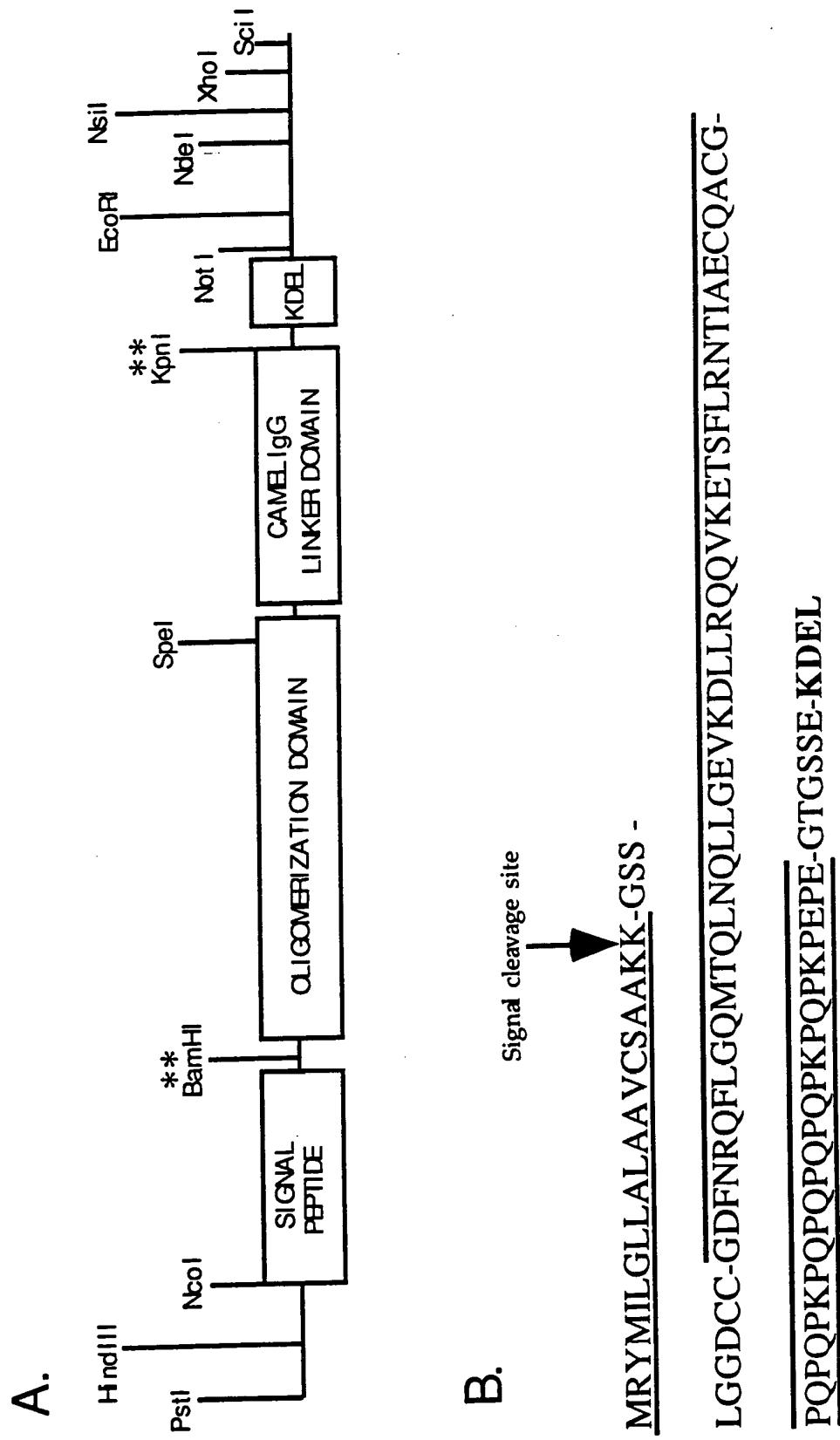
Nsi I
Xho I
Sce I

CATCTCGAG 369

FIGURE 8D.

3,488 (sheet 25 of 30)

Figure 9: HUMAN TSP4 OLIGOMERIZATION DOMAIN KDEL RECEPTOR INHIBITOR PROTEIN



97488 (sheet 2 of 30)

Bbr I
Hind III

Bgl I

Pst I
Eco47 III

AAGCTTACCATGAGGTACATGATTTAGGCTTGCCTGCCCTTGCAGTCTGCAGCGCT 60

M R Y M I L G L L A L A A V C S A

BamH I
Taq II'

RleA I

GCCAAAAAAGGATCCAGCCTGGGTGGAGACTGTTGTGGGACTTTAACCGGCAGTTCTG 120

A K K G S S L G G D C C G D F N R Q F L

Van91 I
EcoN I

BspM I

GGCAAATGACACAATTAAACCAACTCCTGGAGAGGTGAAGGACCTCTGAGACAGCAG 180

G Q M T Q L N Q L L G E V K D L L R Q Q

EcoP15 I

BsaM I

GTAAAGGAAACATCATTGGCAAACACCATAGCTGAATGCCAGGCTTGCAGTCAG 240

V K E T S F L R N T I A E C Q A C G P Q

FIGURE 9C.

37488 (sheet 27 of 30)

CCGCAGCCGAAACCGCAGCCGCAGCCGCAGCCGAAACCGCAGCCGAAACCGGAA 300

P Q P K P Q P Q P Q P K P Q P K P E

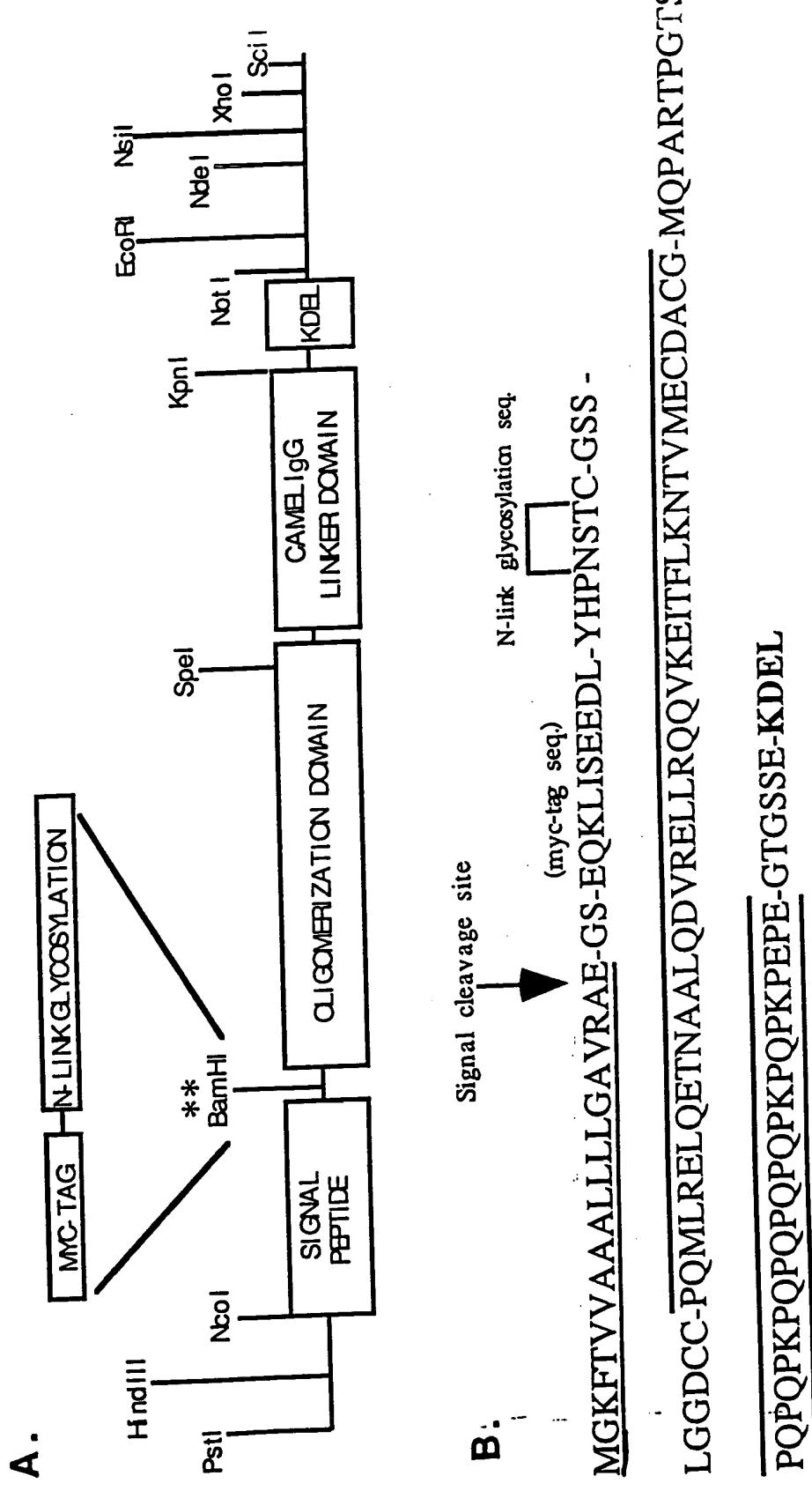
Acc65 I Kpn I Eco52 I EcoR I Nde I
CCGGAAAGGTACCGGATCATCAGAAAAAGATGAGTTTAGGC GGCCGCAGAATTCCATATG 360
Ppu10 I BfrB I

P E G T G S S E K D E L .

Nsi I Xho I Sce I
CATCTCGAG 369

FIGURE 9D.

Figure 10: KDEL Inhibitor Protein with myc-tag and a N-linked Glycosylation Sequence



31488 (sheet 29 of 30)

Diagram illustrating a DNA sequence with restriction enzyme sites and a circled sequence. The sequence is: AAGCTTACCCATGGAAAGTTCACTGTGGTGGCGGGCGTTGCTGCTGGCGCGGGTG. The sequence is marked with vertical dotted lines for Bbr I, Hind III, Nco I, and EcoP15 I sites. A circled sequence is shown: ATGGAAAGTTCACTGTGGTGGCGGGCGTTGCTGCTGGCGCGGGTG. The circled sequence is 160 nucleotides long.

M G K F T V V A A A L L L L L G A V

R A E G S E Q K L I S E E D L Y H P N S

T C G S S L G G D C C P Q M L R E L Q E

ACTAATGC... 240

EcoRI
SacI
BspMI
BstZ2I
EclHKI
BstZ2I

T N A A I Q D V B E L L R Q Q V K E I T

FIGURE 10C.

30/88 (sheet 30 of 30)

F L K N T V M E C D A C G M Q P A R T

Spe I
GGTACTAGTCCGCAGCCGCAGCCGAAACCGCAGCCGCAGCCGCAGCCGCAGCCGAAACCG 360

T S P Q P Q P K P Q P Q P Q P Q P K P

GCAGAATTCCATATGCATCTCGAG

444

FIGURE 10D